

FIGURES OF MIND: THINKING MATTER IN LITERARY FORM, 1650 - 1770

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

by

Jess Keiser

January 2013

© 2013 Jess Keiser

FIGURES OF MIND: THINKING MATTER IN LITERARY FORM, 1650 - 1770

Jess Keiser, Ph. D.

Cornell University 2013

This dissertation examines the interrelation of literary criticism and science of mind in the long eighteenth century by focusing on theories of imagination, fancy, and wit. In grounding these creative faculties in the physiology of the human brain, eighteenth-century thinkers explained the fanciful juxtapositions of the imagination by drawing on experimental science, even as they stressed the confused and mutable nature of the corporeal mind. In so doing, writing on fancy, wit, and metaphor became a means of questioning the boundaries between the thinking subject and the seemingly thoughtless body, the conscious mind and the matter that subtends it. I track this history in the works of Thomas Hobbes, Thomas Willis, John Locke, Alexander Pope, Jonathan Swift, and Laurence Sterne.

BIOGRAPHICAL SKETCH

Jess Keiser was born in Mountain Top, PA in 1984. He received a B.A. in English from Tufts University in 2006, and an M.A. from Cornell University in 2009.

For my parents

ACKNOWLEDGMENTS

My greatest thanks goes to my committee: Rick Bogel, Laura Brown, and my chair, Neil Saccamano. Rick is an ideal reader in multiple senses of the term. His careful and subtle reading of my own work proved to be one of the most important assets when writing this dissertation, just as his often inimitable readings of eighteenth-century poetry and prose continue to be the standard for which my own writing continually strives. Above all, he is generous, wise, and witty (in the most technical sense of the term); I'm proud to say he is my teacher and friend. Laura's capaciousness is unmatched in contemporary academia. She helped me shape what would otherwise be an idiosyncratic curiosity into something resembling a scholarly monograph. Her sense of what would and would not work in this project borders on the uncanny, and it was always a pleasure to realize that, whenever I finally had figured out some seemingly intractable problem, Laura was the one who had pushed me in the right direction. It's a cliché to describe a scholar in literary studies as "rigorous," but I nevertheless think the term can be applied accurately to Neil. His insistence on slowly working through the difficulties of eighteenth-century texts and on rejecting the easy way out spurred me on throughout my years at Cornell. He has encouraged, challenged, and inspired me in so many ways big and small that it would take another dissertation to accurately convey his influence. Like the sublime or the sentimental, his impact goes beyond "mere" words. Without the unwavering support and unerring guidance of Rick, Laura, and Neil I would not have been able to complete this dissertation. I sincerely hope they find their best qualities as scholars and as teachers reflected in these pages.

Many of the ideas in this dissertation took shape in classes and conversations with a number of Cornell faculty. I thank Kevin Attell, Cynthia Chase, Elisha Cohn, Peter Gilgen, Neil Hertz, Michael Jonik, Rayna Kalas, Phil Lorenz, and Jenny Mann for their intellectual generosity, unfailing advice, and ready friendship. Various pieces of this dissertation were

presented at conferences, and I thank Rick Barney, Frank T. Boyle, Danielle Spratt, and especially Al Coppola for encouragement, conversation, and support.

The best ideas in these pages are not my own; they resulted from (often late-night) conversations, debates, confessions, confusions, dialogues, speeches, digressions, rants, satires, sing-alongs, “symposia,” and the occasional reading group with my friends at Cornell. They are not only my ideal audience but my ideal friends. They are: Jacob Brogan, Seth Perlow, Paul Flaig, Cecily Swanson, Ryan Dirks, Aaron Hodges, Bradley Depew, Alan Young-Bryant, Alexis Briley, Ari Linden, Sarah Senk, Rob Lehman, Audrey Wasser, Martin Hägglund, Sarah Pickle, Ben Glaser, Stephanie DeGooyer, Sarah Eron, Carl Gelderloos, Douglas McQueen-Thomson, Dan Sinykin, and Tatiana Sverjensky.

I fatefully wandered into Lee Edelman’s seminar on the literary criticism of Barbara Johnson and Paul de Man in my Junior year at Tufts. Since then Lee has had the most profound impact on my life as nearly anyone I can think of, and I hope that his influence is felt here.

Finally, my greatest debt is to my family—my parents, James and Denise, and my sister, Lindsay—for help, support, and encouragement.

TABLE OF CONTENTS

BIOGRAPHICAL SKETCH	iv
ACKNOWLEDGMENTS	vi
INTRODUCTION	1
1. VERY LIKE A WHALE	20
2. FIGURING ANIMAL SPIRITS	62
3. THE PRINTED MIND	116
4. THE MATTER OF THOUGHT	167
WORKS CITED	221

Around 1660—the exact date is uncertain—a team of Royal Society physicians led by Thomas Willis removed an intact brain from the skull for the first time. Prior anatomists, Willis noted, continually failed in this endeavor. According to Willis, these anatomists “imperfectly understood” the organ they had been dissecting for millennia.¹ At best, they modestly exposed the brain tissue lurking just beneath the “forehead or forepart” of the skull after “some rude cutting”; at worst, they mangled the brain, carving its “Globe as it were into slices and parts” and thereby making it impossible to differentiate the various segments they had mashed together.² In either case, they did more to obscure the brain than to enlighten it. Willis himself admitted that properly anatomizing the brain—which seemed baroque ornamented with rococo “swellings and tuberos risings with several tails or little feet compacted together”—was difficult.³ “[Y]ea the parts of the Brain it self are so complicated and involved,” he lamented, “and their respects and habitudes to one another so hard to be extricated, that it may seem a more hard task to institute its perfect Anatomy, than to delineate on a plain, the flexions and Meanders of some Labyrinth.”⁴ In order to map this labyrinth, Willis assembled a team of virtuosi to aid in his dissections: Thomas Millington, who would help him “confer and reason about the uses of the [cerebral] Parts” the group uncovered; Christopher Wren, who would illustrate their findings in painstaking sketches; and most important of all, Richard Lower—the team’s very own Ariadne—who performed most of the dissections. Thanks to the edge of Lower’s “Knife and

¹ Thomas Willis, *Cerebral Anatomy in Five Treatises*, trans. Samuel Pordage (London: Printed for T. Dring, C. Harper, J. Leigh, and S. Martin), 55.

² *Ibid.*, 55.

³ *Ibid.*, 55.

⁴ *Ibid.*, 55.

Wit,” Willis explained, “in a short space there was nothing of the Brain, and its Appendix within the Skull, that seemed not plainly detected, and intimately beheld by us.”⁵

At first glance, what Lower’s knife had revealed was simply a greyish mass netted with fine blood vessels: a “curious quilted ball,” as Willis later put it. But subsequent dissections made the organ less curious as Willis and his team began better to understand cerebral anatomy. Willis and his team eventually produced the most complete picture of the brain in the seventeenth century. They observed that the brain was divided into twin hemispheres, that it had a large central mass on the top (the cerebrum), a smaller ball on the bottom (the cerebellum), and a marrowy stem at its base (the medulla oblongata). They carefully tracked the nerves that originated at the root of the brain and plunged into the body, and they also mapped the network of arteries that fed blood to the brain from the heart. But these observations, despite their revolutionary significance, were only prelude to Willis’s real work: understanding how the brain produced the “faculties and affections of the Soul.”⁶ For Willis, this meant reasoning about the ways in which the matter of the mind—the structures of the brain, its nerves, and the fluids contained therein—created mental faculties like imagination, memory, and volition. In lectures delivered to an audience of Oxford students, Willis attempted to overturn millennia of conjectures concerning mind and body by explaining how it was that the brain created thought. Willis explained that sensation “depends on refined vital spirits, distilled in the brain, and thence communicated by the nerves to the whole body”; that imagination “is caused by an impression from some external object that moves the spirits inwards and excites other spirits in the medulla oblongata into an expansive movement”; and that volition occurs when the movement of these animal spirits “is extended to excite the appropriate nerves which in turn, provoke the external

⁵ Ibid., 55.

⁶ Ibid., 53.

parts to follow the same object.”⁷ In other words, for Willis, nearly all thinking could be reduced to flux of chemically charged particles (the animal spirits) pulsating in the skull.

*

Willis “discovery” of the brain is undoubtedly momentous, but it also leaves us with a problem, a problem that still troubles us today and a problem that this dissertation explores by attending to the literature and thought of the late seventeenth and early eighteenth centuries. The problem is this: how is it that the mere matter of the brain could produce thought? It is one thing, after all, to anatomize the brain, to detail its labyrinthine folds and to track its web of nerves. It is quite another, however, to explain how this “curious quilted ball” thinks—to explain how it was that the curious nerves and flesh Willis discerned in his dissections could also give rise to a mental quality like curiosity. As I will discuss at greater length (Chapter 2), the brain matter that Willis uncovered in his dissection was, upon inspection, dead and inert. Willis certainly recognized that the brains within living beings possessed lively qualities that he could not discern after their deaths. But even what Willis could extrapolate about the functioning of living brains—namely, that they were charged with the forces of chemical reactions that presumably animated them—did not point to fully conscious thought in any obvious way. The qualities of matter did not evince the qualities of thought. Nevertheless, this seemingly thoughtless matter *made* thought.

It is important to note at the outset that this problem—how does the mere matter of the brain produce conscious thought—is slightly different from a related, but ultimately distinct, problem, one that we usually refer to as the mind/body problem. When we talk about the

⁷ Thomas Willis's *Oxford Lectures*, ed. Dewhurst (Oxford: Sandford Publications, 1980), 54; 65; 66, respectively.

mind/body problem, we wonder how it is that the mind (or perhaps the soul) interacts with the body. As difficult as that question is, it is in fact *easier* than the one I am exploring here. After all, the mind/body problem solves at least one difficulty right away: it makes thinking an attribute of the mind or soul, and in the process it makes thoughtlessness a matter of the body. Having done so, mind/body dualism leaves us with task of explaining how a presumably incorporeal and insubstantial thing like the soul interacts with a substantial, corporeal body; it forces us to explain, in short, how the ghost moves the machine. To put this another way: Willis's problem is not Descartes's. For Descartes, it is in the nature of mind to think just as it is in the nature of body or matter not to. Descartes does not need to worry about how (or if) matter thinks because, in his philosophy, it cannot.⁸

The problem we face when we come face to face with Willis's quilted ball is harder than that raised by Cartesian dualism, since in this case we must wrestle with the problem of what makes thought possible in the first place. This problem is so hard in fact that contemporary philosophers of mind refer to it simply as the "hard problem" or—in their more voluble moments—as "the hard problem of consciousness." This phrase was coined by the contemporary philosopher David Chalmers who differentiates "hard problems" from "easy problems" in matters of consciousness. According to Chalmers, "easy problems" are those "that seem directly susceptible to the standard methods of cognitive science, whereby a phenomenon

⁸ For example, here is how Descartes explains the mind's relation to the body in his Sixth Meditation: "I know that I exist and that at the same time I judge that obviously nothing else belongs to my nature or essence except that I am a thinking thing, I rightly conclude that my essence consists entirely in my being a thinking thing. And although perhaps (or rather, as I shall soon say, assuredly) I have a body that is very closely joined to me, nevertheless, because on the hand I have a clear and distinct idea of myself, insofar as I am merely a thinking thing and not an extended thing, and because on the other hand I have a distinct idea of a body, insofar as it merely an extended thing and not a thinking thing, it is certain that I am really distinct from my body and can exist without it." René Descartes, *Meditations, Objections, and Replies*, trans. and eds. Roger Ariew and Donald A. Cress (Indianapolis, IN: Hackett Pub, 2006), 44.

is explained in terms of computational or neural mechanisms.”⁹ For instance, it is possible to explain how the brain controls bodily behavior by mapping out the messages that travel from the neurons to the nerves in the hand. This is an easy problem. As its name indicates, though, the hard problem is more troublesome. For Chalmers, the hard problem asks how experience as such results from physical processes within the brain:

It is undeniable that some organisms are subjects of experience. But the question of how it is that these systems are subjects of experience is perplexing. Why is it that when our cognitive systems engage in visual and auditory information-processing, we have visual or auditory experience: the quality of deep blue, the sensation of middle C? How can we explain why there is something it is like to entertain a mental image, or to experience an emotion? It is widely agreed that experience arises from a physical basis, but we have no good explanation of why and how it so arises. Why should physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, and yet it does.¹⁰

Note that Chalmers does *not* argue that conscious experience must result from something immaterial. He readily grants that consciousness arises from a “physical process.” The issue, he explains, is that we have no idea “why or how it so arises.” To put this point into slightly different terms (ones often adopted by contemporary philosophers of mind): there is a gap between our first-person, subjective experience of things and our third-person objective view of the brain. First-person conscious experiences (“I am seeing blue”) are qualitatively different from third-person reports on the brain (when someone sees the color blue, neurons X, Y, and Z

⁹ David Chalmers, “Facing Up to the Problem of Consciousness.” *Journal of Consciousness Studies* 2: 200 – 219, 1995.

¹⁰ Ibid.

light up). Consciousness traffics in felt experience; cognitive neuroscience studies the mechanisms that undoubtedly give rise to such experience but that, when displayed on the output terminal of fMRI machines, do not correlate to that experience in any self-evident way.

As scholars like Jonathan Kramnick have argued, something like the hard problem was articulated in the seventeenth and eighteenth centuries.¹¹ For example, as we will see (Chapter 4), John Locke frequently references the problem of “thinking matter,” a phrase that has an ambiguity that serves it well since it can denote both the questions I already have posed—can mere matter think; how does it do so?—just as it can remind us that one way to think about this question is to think *about* matter, to think about what qualities matter would need to possess in order to think, reason, remember, and desire. Perhaps the most prominent early exposition of this problem appears in Leibniz’s *Monadology*:

Moreover, it must be confessed that *perception* and that which depends upon it are *inexplicable on mechanical grounds*, that is to say, by means of figures and motions. And supposing there were a machine, so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain perception. Thus it is in a simple

¹¹ Jonathan B. Kramnick, *Actions and Objects from Hobbes to Richardson* (Stanford, Calif: Stanford University Press, 2010), 9. As will become obvious, my own work is indebted to Kramnick’s. We both begin with the central insights that the hard problem fascinated eighteenth-century thinkers and that attending to the hard problem (or the problem of thinking matter) entails rethinking how consciousness actually works during this period. Kramnick, uses this insight to consider problems of will, free agency, and determinism, whereas I follow it into considerations of creativity and thinking more generally.

substance, and not in a compound or in a machine, that perception must be sought for.¹²

Unlike Chalmers, Leibniz makes an ontological rather than an epistemological claim about the mind. The mind cannot be a mechanical “compound”; instead, it is a “simple substance” (ideally, an unextended thinking thing). But this ontological claim is grounded in an epistemological argument that is very like Chalmers’s own. The reason mind cannot be a mere mechanism is because mechanical, physicalist thinking explains nothing about the mind. Even if we could enter into Leibniz’s mill—that is, even if we could understand the interaction of every element of this machine, or of every neuron in the brain—we would be no closer to understanding conscious thought because the latter is wholly unlike the former. A machine only functions through matter in motion—“only parts which work upon one another”—while perception is a conscious, subjective experience.

*

My project does not set out to solve the hard problem of consciousness or questions of thinking matter. If such problems and questions are solvable or answerable then the ones to answer them are currently toiling before fMRI scanners or debating the finer points of mental emergence at academic conferences. My interest in these issues is historical and ultimately literary in nature. In fact, my project’s main claim is this: if we want to better understand the thinking matter debate and problems of embodied consciousness in the eighteenth century, then we need to turn to the literature of the period. This claim may sound surprising at first. We might expect the debate about thinking matter to unfold mainly in the pages of seventeenth- and

¹² Gottfried W. Leibniz, *The Monadology in Discourse on Metaphysics and Other Essays*, trans. and ed. Daniel Garber and Roger Ariew (Indianapolis: Hackett, 1991), 54.

eighteenth-century philosophy and physiology—and that certainly is true to an extent.

Nevertheless, there is a kind of squeamishness in eighteenth-century philosophy of mind around this question—a squeamishness that often makes “thinking matter” a verboten or troubling topic in serious philosophical discourse.

Willis’s own student, the philosopher John Locke, led the way in this respect when he explained in his influential *Essay concerning Human Understanding* that one should not “meddle with the Physical Consideration of the Mind; or trouble ourselves to examine, the Motions of our Animal Spirits, or the Alterations of our Bodies.”¹³ In other words, according to Locke, instead of attending to the body’s effect on the mind, we should attend simply to the conscious ideas that march before the mind’s eye. This is a repudiation of everything Willis had taught Locke. If we want to study consciousness, Locke says, then we need to put aside the question of where consciousness comes from me. Precisely why Locke believed this is worth exploring for a moment. Locke was not a materialist in the mold of someone like Hobbes—a writer who maintained that all thinking was only matter in motion. This does not imply, though, that Locke is an *immaterialist* or dualist in the mold of Descartes (although he sometimes inclines towards this position when pressed).¹⁴ Instead, Locke’s official view on the relation between thought and matter is best described as a kind of agnosticism: thinking might be an attribute of matter or it might be the result of an immaterial substance somehow joined to matter, but ultimately we cannot know which theory is the correct one. After all, it is within God’s power, Locke argues, to make either possibility real. As he explains:

¹³ John Locke, *An Essay Concerning Human Understanding*, ed. Nidditch (Oxford: Clarendon Press, 1975), 43. For each reference I include Book, Chapter, and Section numbers and the corresponding page number in the Nidditch edition. So, 1.1.2: 43 is Book I, Chapter 1, Section 2: Page 43.

¹⁴ See, for example, Locke’s letter to Bishop Stillingfleet: “I grant I have not proved, nor upon my principles can it be proved ... that there is an immaterial substance in us that thinks. Though I presume ...it [is] in the highest degree probable, that the thinking substance in us is immaterial.”

We have the *Ideas* of *Matter* and *Thinking*, but possibly shall never be able to know, whether any mere material Being thinks, or no; it being impossible for us, by the contemplation of our own *Ideas*, without revelation, to discover, whether Omnipotency has not given to some Systems of Matter fitly disposed, a power to perceive and think, or else joined and fixed to Matter so disposed, a thinking immaterial Substance: It being, in respect our Notions, not much more remote from our Comprehension to conceive, that GOD can, if he pleases, superadd to Matter a Faculty of Thinking, than that he should superadd to it another Substance, with a Faculty of Thinking; since we know not wherein Thinking consists (4.3.6: 540 – 541).

In other words, since God can “superadd” to matter either the ability to think or a soul that thinks, Hobbesian materialism and Cartesian dualism are equally viable views.¹⁵ Locke contends, though, that we cannot arbitrate between these two positions since we are sadly ignorant of the real essences of things.¹⁶ We know that things think and we know that material things think, but our faculties are too weak and too limited to pry into the substance of thinking things. Without such knowledge, we cannot determine if the thinking is done by atoms and animal spirits or by an incorporeal soul. Hence, we must attend to conscious thought as such rather than guessing at what makes that thought possible. Thanks in large part to Locke’s influence, the body and brain are quite literally out of sight and out of mind in much eighteenth-century philosophy.

¹⁵ While Locke never committed to materialism or dualism, his mere suggestion that matter *could* think caused a fair amount of controversy and led to attacks against him. For a survey of these reactions see John W. Yolton, *Thinking Matter: Materialism in Eighteenth-Century Britain*. (Minneapolis: University of Minnesota Press, 1983).

¹⁶ Locke doesn’t believe that we can know the “real” essences of things—with the exception of certain simple ideas. According to Locke, most essences are “nominal,” that is, they are created by human language. See 3.6.3.

Locke had good reason to try to keep matter out of mind. In the above passage, Locke explains that God could make matter think or perhaps bind an incorporeal thinking soul to matter. But what kind of being is God? What if God is also made entirely of matter (as some materialist—such as Hobbes—claimed)? Locke rejects this view on logical grounds. Since we know that thinking things (like human beings) exist, it must follow that an originary thinking thing (like God) created them. It would be absurd, though, to imagine that something “purely material, without Sense, Perception, or Thought” could bring into existence a “thinking intelligent Being” (4.10.9 – 10: 623). Nevertheless, Locke wonders what sort of thoughts a purely material being might possess:

If it be the motion of its parts, on which its Thinking depends, all the Thoughts there must be unavoidably accidental and limited; since all the Particles that by Motion cause Thought, being each of them in it self without any Thought, cannot regulate its own Motions, much less be regulated by the Thought of the whole; since that Thought is not the cause of Motion, (for then it must be antecedent to it, and so without it,) but the consequence of it, whereby Freedom, Power, Choice, and all rational and wise thinking or acting will be taken away: So that such a thinking Being will be no better nor wiser, than pure blind Matter; since to resolve all into the accidental unguided motions of blind Matter, or into Thought depending on unguided motions of blind Matter, is the same thing (4.10.17: 627).

In this passage, Locke points to at least two problems that would plague “thinking matter.” For one thing, a system of matter could not “regulate” its thoughts. Since bits of matter are in themselves senseless and without agency (think of atoms cascading through a void), it doesn’t follow that a collection of matter would exhibit organization and control. Without some sort of

higher-order entity regulating it, matter would be free to follow its own chaotic imperatives. This problem leads to a second: since matter determines thought (rather than the other way around), faculties like “freedom” and “choice” disappear from the mind. The result is a system that is both chaotic and utterly determined by that chaos. Here Locke portrays matter as something that confuses the mind while leaving it unable to correct or “regulate” its otherwise delusive thoughts.

And yet this mind of matter is only a thought experiment for Locke. There is simply no way for human subjects to determine if mind and matter truly behave this way, and for this reason such hypotheses are relatively rare in eighteenth-century philosophy. But they are less rare in eighteenth-century literature. Precisely why this is the case is hard to say precisely, but I would emphasize one important point: namely, that the imagination—the faculty most important to all poets and artists—was intimately attached to the body and brain during this period. As scholars like G.S. Rousseau have pointed out, thinkers from Aristotle up until the late eighteenth century had linked the imagination to the body.¹⁷ Moreover, by the time of the physiological advances of the late seventeenth and eighteenth centuries the imagination was also linked to the brain. More important still, there were a number of discourses—especially about dreams, madness, and melancholy—that stressed that the imagination could form and even combine distinct ideas independent of the rational and presumably insubstantial mind. For example, consider the scene in Milton’s *Paradise Lost* where Satan transforms himself into a toad in order to whisper into Eve’s ear, thereby infecting her dreams with his malignant influence:

¹⁷ G.S. Rousseau, "Science and the Discovery of the Imagination in Enlightened England." *Eighteenth Century Studies*. 3.1 (1969): 108-135.

[Satan] there they found
Squat like a Toad, close at the eare of Eve;
Assaying by his Devilish art to reach
The Organs of her Fancie, and with them forge
Illusions as he list, Phantasms and Dreams,
Or if, inspiring venom, he might taint
Th' animal spirits that from pure blood arise
Like gentle breaths from Rivers pure, thence raise
At least distemperd, discontented thoughts,
Vaine hopes, vaine aimes, inordinate desires
Blown up with high conceits ingendring pride.¹⁸

In order to influence Eve, Satan does not attack her inviolable mind but her bodily fancy. Milton links the “organs” of wayward fancy to the distempered motions of the animal spirits, just as Willis would at nearly the same time. The connection between Milton and Willis is made more prominent later in *Paradise Lost* when Adam gives Eve a crash course in faculty psychology:

[Adam to Eve]: Best Image of my self and dearer half,
The trouble of thy thoughts this night in sleep
Affects me equally; nor can I like
This uncouth dream, of evil sprung I fear;
Yet evil whence? in thee can harbour none,
Created pure. But know that in the Soule
Are many lesser Faculties that serve

¹⁸ John Milton, *Complete Poems and Major Prose*, ed. Merritt Y. Hughes (New York: Odyssey Press, 1957), 297.

Reason as chief; among these Fansie next
Her office holds; of all external things,
Which the five watchful Senses represent,
She forms Imaginations, Aerie shapes,
Which Reason joyning or disjoyning, frames
All what we affirm or what deny, and call
Our knowledge or opinion; then retires
Into her private Cell when Nature rests.
Oft in her absence mimic Fansie wakes
To imitate her; but misjoyning shapes,
Wilde work produces oft, and most in dreams,
Ill matching words and deeds long past or late.¹⁹

Imagination or fancy, Adam explains, is usually ruled over by reason. It is reason that normally directs the “joyning or disjoyning” of the sense experiences. But when we are asleep, and insubstantial reason retires to her private cell, the fancy alone—a mere faculty of the body—can mis-join shapes and create strange dreams. In other words, when the mind is asleep, the body is still awake, meaning that it can form new images from the senses. In this respect, the corporeal imagination can “think” independently of the mind. This is not the fully conscious, fully controlled thinking that someone like Locke details throughout much of the *Essay*. Rather, it is closer to the chaotic and impetuous thinking that Locke describes in his extravagant thought experiment.

¹⁹ Ibid., 305.

In short, much of the discourse surrounding the thinking matter question was already at play in creative and literary work in the seventeenth and eighteenth centuries. If we want to know if the body can think—if we want to know *what* the body might think about—we should look at the imagination and its creations first. To that end, throughout this dissertation, I examine discourses about creativity in the late seventeenth and early eighteenth centuries—about the brain’s creation of metaphor, or the fancy’s ability to associate ideas—in order to better understand the thinking matter debates that play out there. Examining these discourse will lead us to a different picture of consciousness than the one we find in novels like *Clarissa* or in philosophical texts like Locke’s *Essay* (although, as we have seen and will see, the *Essay* sometimes deviates from the norms of consciousness). By attending to the thinking matter in literary texts during this period, we will encounter a kind of thinking that is less unitary, less stable, and less consistent than what we are used to. In the following chapters, I am interested in things that should not think but do—like the dumbly material atoms or animal spirits that create the brain—as well as things that should think but do not—like the human hacks who appear in Scriblerian satire.

*

Chapter 1 (“Very Like Whale: Metaphor and Materialism in Hobbes and Swift”) considers a materialist system that thrived just before Willis’s revolution in brain anatomy took hold. In works like *Leviathan*, Thomas Hobbes argues that everything—human minds, even God—is solely material in nature. Hobbes’s thought was attacked for many reasons in the late seventeenth century. His materialist system not only challenged mainstream religious doctrines, it also advocated for political principles that ostensibly curtailed human freedom. But perhaps the most creative assault on Hobbes’s thought could be found in Jonathan Swift’s *A Tale of a*

Tub. From Swift's perspective, Hobbesian materialism creates a world without distinctions. Human minds become confused with unthinking matter—a confusion that makes all things thoughtless substance.

What is most surprising about Swift's attack on Hobbes, though, is that it uses figurative language—rather than plain philosophical arguments—to make its point. Swift's modern Hobbesian materialist confuses distinct things (mind and matter) because he also confuses unlike and antithetical words. In Swift's work, the failure to perceive the careful balance of similarity *and* difference in metaphor becomes analogous to reducing all things to mere matter. To be sure, this is an odd connection, but it is nevertheless one that Hobbes himself institutes. In fact, by observing Hobbes in the mirror of Swift's satire, we can discern details in the former's work that would otherwise be neglected. Specifically, we can see that Hobbes's philosophy relies on the logic of metaphor in order to explain a world of mere matter. While many critics have argued that Hobbes's science was resolutely anti-rhetorical in its call for an unadorned and objective "plain" style, I show that Hobbes's writings on metaphor are key in understanding how he conceives the work of matter. Consider that Hobbes's philosophy reduces the human mind to a purely physical entity, a site of retained matter and motion in perpetual flux. But since ideas in the mind are only motion they often mix together into strange new patterns, thereby producing surprising figures from the otherwise familiar building blocks of sense experience. Thus, I claim that, for Hobbes, materialism is the engine of metaphor just as metaphor is a means of arriving at scientific truths about the nature of matter.

Chapter 2 ("Figuring Animal Spirits: Thomas Willis and the Personified Mind") returns to Willis's work and to the problems of thinking matter that I detailed above. By bringing to light an heretofore obscure organ, Willis's brain anatomy helped expel what he called a "certain

Poetical Philosophy and Physick,” a system inherited from ancient physicians like Galen who, in lieu of direct observation, relied on “fancy” and “speculation” in order to paint a picture of the human mind. And yet, as his contemporaries were quick to point out, Willis’s own “physick” was thoroughly “poetical” in certain respects. Specifically, Willis relied on figurative language to describe the activities of invisible (and entirely speculative) entities: the animal spirits—small bits of lively matter that coursed through the nerves and made thinking and acting possible. Because the animal spirits were too fleeting and too small for direct observation, Willis used metaphor as a means of explicating these entities for his readers, describing the spirits variously as soldiers, citizens, and even rebels in a (figurative) body politic.

By paying particular attention to Willis’s metaphors, this chapter examines how figurative language relates to empiricism and observation in early modern science. In contrast to those critics who contend that the rise of science goes hand in hand with calls for plain-spoken literalism, I argue that Willis’s use of metaphor was common in Restoration natural philosophy. Since metaphors could draw connections between unfamiliar concepts and more familiar images (animal spirits become an army, for example), thinkers like Bacon and Boyle reasoned that tropes could be valuable tools in making visible otherwise invisible mechanisms. For Boyle, metaphors “do the Imagination almost as much Service as Microscopes do the Eye”—a contention that Willis adopted in his own work.

Nevertheless, a scientist’s tropes could also turn against him or her. As knowledge about brain anatomy increased in the eighteenth century—and animal spirits proved impossible to find—a number of thinkers accused Willis of inventing his spirits by means of metaphor. For Bernard Mandeville (in *A Treatise of the Hypochondriack and Hysterick Diseases*), Willis’s figures obscured—rather than elucidated—his more readily observable claims. More seriously,

for Jonathan Swift (in *The Mechanical Operation of the Spirit*), Willis's metaphorical invention of animal spirits fooled the physician into thinking he could glimpse something he could not in fact see: the manner in which the mere matter of the brain produced conscious thought. By the mid-eighteenth century, Willis's work was seen as increasingly "poetical" rather than empirical, a charge driven home by the satires of poets like Mandeville and Swift.

Chapter 3 ("The Printed Mind: Thinking Matter in Scriblerian Satire") examines the work of Scriblerian satirists like Alexander Pope, Jonathan Swift, and John Arbuthnot. Works like Jonathan Swift's parody of modern scholars and scientists, *A Tale of a Tub*, Pope's epic of stupidity and bad verse, *The Dunciad*, and John Arbuthnot's poem on mind, "Know Yourself," all demonstrate the growing connection between the uncertainties of matter and mental derangement. While matter seems to imply a ready substantiality and permanence to the twenty-first century mind, the Scriblerians' literary endeavors demonstrate that, for the eighteenth century, matter was seen as mutable and dangerously contingent, views readily illustrated by the Scriblerians' grotesque portraits of poets and virtuosi as machines that produce random and senseless writings. Drawing on new theories of mental and bodily derangement, the Scriblerians do more than savage the bad writing of their opponents—they pathologize it.

This dynamic is evident in the Scriblerians' continual comparison of the brain to a printed surface. This ancient metaphor, evident in the writings of Plato and St. Paul, becomes literalized in late seventeenth and early eighteenth centuries. In this period, the animal spirits print ideas onto the brain just as words are printed upon a blank page. Whereas the metaphor of the printed-mind stressed stability and legibility, the newly literalized and materialized image continually stresses that the mind can be blotted out and made illegible. In this sense, the printed-mind entails a threat: hack authors will continue to produce books that no one will read just as the

brain could produce ideas that somehow are not consciously perceived. The Hacks are, to borrow a line from John Arbuthnot, a “thinking thoughtless crew.” The matter of their brains can “think” independently of their conscious mind. Indeed, their brains can produce thoughts that remain unperceived and unread.

Chapter 4 (“The Matter of Thought in Locke and Sterne”) considers John Locke’s influence on Laurence Sterne. As we have seen, Locke manages to work around the traditional version of the mind/body problem (how was it that the soul interacts with the body) by remaining skeptical about whether or not we could really know what matter (or soul) was. Instead of speculating about the role of animal spirits and brain matter in cognition, Locke set out to write a “plain history of the understanding”—an experimental history that would only record the ideas in the conscious mind and would ignore where those ideas came from or what they were made of. There is one important exception to this rule, however, in the case of the association of ideas. Since (mis-)association is caused by the confusion of animal spirits in the corporeal mind, Locke maintains—at least in this case—that matter can think. And yet it is in the nature of this thinking matter that the conscious subject can never understand that the brain has mis-associated otherwise unlike ideas. Those made mad by mis-association, according to Locke, cannot see or examine the nature of their madness. Far from safely separating consciousness from intractable questions of matter, then, Locke’s skepticism opens up a void in his epistemology: the matter of the body can think for us and yet we can never know why or how it does so.

While much has been written about Locke’s influence on Sterne, I argue that almost all of this criticism ignores the reading of Locke that I have sketched out above. In fact, I show that Sterne himself read Locke with an eye towards the latter’s writings on mind *and* matter. Sterne recognized both Locke’s commitment to a matter-less “plain history of the understanding” *and*

Locke's lapse into materialist speculation. Furthermore, Sterne himself dramatizes this divide in his own writings. That is, Sterne continually narrates scenes in *Tristram Shandy* from the perspective of the conscious mind before alternating to a perspective that considers the state of the brain. In doing so, Sterne, like Locke, meant to stress the divide between these two ways of looking at the world. His work continually stresses the disconnect between our thoughts and the physiological origin of those thoughts.

Chapter 1:
Very Like a Whale: Metaphor and Materialism in Hobbes and Swift

A Tale of a Tub, Jonathan Swift explains beneath the guise of that work's Hack author, was written in order to stave off "the Wits of the present Age ... [who] should find leisure to pick Holes in the weak sides of Religion and Government."¹ Swift's Hack never reveals precisely who these "Wits" are, but he is clear about their origin. It is Thomas Hobbes's *Leviathan*—a book which "tosses and plays with all other Schemes of Religion and Government"—"from whence the terrible Wits of our Age are said to borrow their Weapons" (*Tale* 40). The idea that *Leviathan* could inspire this sort of irreligious satire seems strange to us today. Thanks in large part to attacks on Hobbes's thought (in works like *A Tale of a Tub* no less), we are used to thinking of Hobbes as a victim—rather than an author—of satire. Yet as the Hack's admonitions hint, Hobbes's first readers saw in the pages of *Leviathan* the efforts of a philosopher and a satirist. These readers recognized Hobbes's serious contributions to thought and were suitably alarmed by his materialist renderings of political philosophy, psychology, and theology. Nevertheless, these same readers also noted how quickly Hobbes's otherwise sincere philosophy shaded into ridicule and scorn.² They saw how earnest defenses of sovereign

¹ Jonathan Swift, *A Tale of a Tub*, eds. Guthkelch and Smith (Oxford University Press, 1958), 39. Hereafter cited as *Tale*.

² For the fullest account of Hobbes's reception in the seventeenth century, see Jon Parkin, *Taming the Leviathan: The Reception of the Political and Religious Ideas of Thomas Hobbes in England, 1640-1700* (Cambridge, UK: Cambridge University Press, 2007). Describing *Leviathan* variously as a "farrago" and a "rapsodie," Hobbes's contemporaries frequently linked that work to the fragmentary tradition of Menippean satire and philosophical anatomy—a tradition best exemplified by *A Tale of a Tub*. On these points see Parkin, *Taming the Leviathan*, 102 and 122. See also the letter of one Bishop Brian Duppa, writing to his friend four months after the publication of *Leviathan*:

[T]here is an other production of the press, that Affrick hath not seen a greater monster, and that is Mr. Hobbes his *Leviathan*; a title that I wond'ered at at first, but when I found out how like he

authority gave way to vicious attacks on the orators and politicians who might subvert that authority, how discourses on the passions turned into expositions of madness and illusion, and how demonstrations of logic and reason became an opportunity to single out the nonsensical language of Scholastic philosophers and false prophets. In short, these early readers captured the playfully dangerous *Leviathan* that often eludes even the widest and sturdiest of modern nets.

In the following pages, I will reclaim this older reading of *Leviathan* by stressing the close connection between Hobbes's materialist philosophy and his satire.³ In doing so, I will also stress that one wit who certainly did borrow his weapons from Hobbes was Jonathan Swift. This fact, though sometimes acknowledged, usually is given little attention in modern criticism. Since a text like *Leviathan* is perceived as the work of a staid philosopher rather than a serious satirist, scholars are more likely to emphasize the differences between Hobbes and Swift than to underline their similarities.⁴ Consider the case of Robert H. Hopkins, the first critic to demonstrate that many of Swift's best barbs are taken from Hobbes's arsenal. As Hopkins notes, Hobbes's "ironic literalism"—his suggestion that the failure to recognize the figurative significance of Scriptural terms like "inspiration" or "spirit" will damn religious radicals to dumbly materialist doctrines—inspired Swift's own portrait of the religious enthusiast as an

was to the *Leviathan* that Job speaks of, who plai'd, and sported himself in the Deep, I liked his judgment better in the title than in the book, for certainly (Lucian excepted) none ever was more gamesome in religion than he is. And yet as in the man, so there ar [sic] strange mixtures in the book; many things said so well that I could embrace him for it, and many things so wildly and unchristianly, that I can scarce have so much charity for him, as to think he was ever Christian.

The Correspondence of Bishop Brian Duppa and Sir Justinian Isham, 1650 – 1660, ed. Sir Gyles Isham (The Publications of the Northamptonshire Record Society, Vol. XVII, 1951), 41. Qtd. in Parkin, *Taming the Leviathan*, 99.

³ My own work on this subject has been anticipated and inspired by two important texts that have described a satiric Hobbes: Quentin Skinner's *Reason and Rhetoric in the Philosophy of Hobbes* (Cambridge: Cambridge University Press, 1996) and Roger D. Lund's "The Bite of *Leviathan*: Hobbes and Philosophic Drollery," *ELH* 65 (1998): 825 – 855. I differ from Lund and Skinner, however, in making materialism—rather than the rhetorical tradition (Skinner) or proto-Augustan wit (Lund)—the key component of Hobbes's satire.

⁴ For instance, Alan S. Fisher treats Hobbes as merely a target of Swift's scorn. See his "An End to the Renaissance: Erasmus, Hobbes, and 'A Tale of a Tub,'" *Huntington Library Quarterly*, 38, 1 (Nov. 1974).

“Aeolist” whose divine message is in fact nothing but wind blowing through his heads.⁵

Nevertheless, Hopkins only points to this borrowing in order to underscore a deeper divergence between the two writers. In Hopkins’s reading, Swift appropriates Hobbes’s satiric technique in order to turn that technique against its creator. The Aeolist episode of the *Tale*, Hopkins writes, “is both a satire of enthusiasm *and* a satire of Hobbist literalism.”⁶ Hence, while Swift adopts elements of Hobbes’s satire on religious enthusiasm, he ultimately comes to mistrust and to attack the kind of mind that perpetually reduces spirit to mere matter. As Hopkins explains: “For Swift, Hobbes’s materialism and his corrosive criticism of Scripture ... were such that even at the end of the seventeenth century, *Leviathan* would still need to be hunted.”⁷

And Swift’s critics still hunt for traces of *Leviathan* in the *Tale*, though they mainly follow the track that Hopkins first cleared. What remains unclear in these hunts, however, is precisely what kind of creature these critics are stalking. Indeed, there’s an ambiguity in Hopkins’s reading of *Leviathan* that survives in later criticism. When Hopkins describes Hobbes as a satirist—as a writer who not only anticipated but inspired Swift’s wit—he delineates a rhetorically deft figure, a figure who could expose and parody the poor interpretative skills of his religious rivals through an “ironic literalism.” However, when Hopkins treats Hobbes as a materialist—and hence as a target for Swift’s disdain—he portrays him as a plain-spoken “literalist,” one whose plodding philosophy could be easily out-manuevered by Swift’s quick wit.⁸

⁵ Robert H. Hopkins, “The Personation of Hobbism in Swift’s *Tale of a Tub* and *Mechanical Operation of the Spirit*,” *Philological Quarterly*, 45 (1966): 375.

⁶ *Ibid.* 375.

⁷ *Ibid.* 376.

⁸ For example, it is now customary to link Swift’s approach to metaphor with Hobbes’s writings on fancy—the mental faculty that locates similarity in the dissimilar and thereby creates metaphor and other tropes. For this reading see John R. Clark, *Form and Frenzy in Swift’s Tale of a Tub* (Ithaca: Cornell University Press, 1970), 137; Frederick N. Smith, *Language and Reality in Swift’s Tale* (Columbus: Ohio State University Press, 1979), 97 – 99;

The thinking that gives rise to this ambiguity—thinking that institutes a strict divide between incisive, rhetorically-minded satire and the literal plain truths of materialism—is precisely what I want to challenge in this essay. As I'll show, one reason this thinking persists is thanks in large part to the success of Swift's satire on Hobbes. For Swift, literalism is the language of materialism. By maintaining that only mere matter exists, the materialist (in Swift's estimation) ignores critical differences between, for example, the ostensibly incorporeal mind of a human being and the otherwise soulless bits of unthinking substance that surround and subtend the psyche. In Swift's conception of the materialist universe, everything is the same since everything—stones and atoms as well as souls and psyches—is merely body and matter. Literalism works according to a similar logic. Since the literalist cannot perceive the duality implicit in figurative language—language that compares unlike things without confusing them—he or she arrives at evidently confounding interpretations.⁹ We can imagine a strictly literalist interpreter reading the *Iliad* and coming away with the impression that Achilles really was a lion.

and Jean-Paul Forster, *Jonathan Swift: The Fictions of the Satirist* (Berne and New York: Peter Lang, 1991), 33. It also customary, though, to note a fundamental divide between the two thinkers on the question of materialism and Hobbes's presumed advocacy of literalism. For this reading see Everett Zimmerman, *Swift's Narrative Satires: Author and Authority* (Ithaca: Cornell University Press, 1983), 46 – 47; and Marilyn Francus, *The Converting Imagination* (Carbondale: Southern Illinois University Press, 1994), 26 – 27. According to this critical tradition, Hobbes is both the key to understanding how metaphor works in literary texts like Swift's and an advocate for eradicating figure entirely.

⁹ To put this in slightly different terms: what I'm calling "literalism" isn't the same as the literal or the proper. To literalize (in the sense that I use the term and in the sense that Swift's satire performs it) is to misread a figurative statement. When Swift's Hack mentions that it is the "Philosopher's Way in all Ages" to erect "certain *Edifices in the Air*" (*Tale* 156), he "literalizes" this statement not by stripping away its ornament and returning it to its proper referent ("Philosophers literally engage in abstract speculation") but by failing to discern that a certain set of terms are borrowed from one kind of discourse ("castle" "air") in order to describe another kind (in this case, highly abstract systems). The Hack, having literalized this phrase, worries about the "Inclemencies of Air" that will trouble these systems. In other words, figurative language requires the recognition that otherwise discrete and different terms are being momentarily confused or equated; literalization ignores the partial and contingent nature of this borrowing and tries to institute a stricter identity of terms, an act that Richard Kroll identifies as the source of "false knowledge" in the seventeenth and eighteenth centuries. He explains: "False knowledge can be thought of as the unwarranted collapse or compression of discrete particles into one another, like an act of prestidigitation that deludes an audience into seeing two things as one: that is what Johnson, in an unjustly maligned moment, meant when he accused the metaphysical poets of yoking ideas by 'violence' together" (Richard W. F. Kroll, *The Material Word: Literate Culture in the Restoration and Early Eighteenth Century* [Baltimore: Johns Hopkins University Press, 1991], 13).

Thus, when Swift attacks Hobbes he faults him above all for transforming complexity and difference into mindless confusion and senseless sameness, qualities evident both in his philosophical commitment to materialism and in the literalist language that serves as an analogue for the Hobbesian system (at least according to Swift).

Nevertheless, reading Hobbes on his own terms will show that his materialism resists the reductive character that Swift's satire tries to impose upon it. Hobbes continually demonstrates how materialist thought can explicate complexity, account for difference, and even satirize the sorts of reduction that Swift finds at work in materialism. Indeed, I will argue that Hobbes himself attacks reductive literalism—though unlike Swift he finds this tendency embodied in the thought of immaterialists, that is, in those who argue that there are spirits and souls distinct from matter. In Hobbes's writing, the only reason people believe in such superstitious entities is because they have taken evidently figurative statements in Scripture for literal realities. Like Swift, then, Hobbes wants to savage folly and error. And, like the Dean, his flaying of religious radicals and Scholastic philosophers uncovers the madness and hypocrisy lurking beneath the appearance of the holy and the learned. There is a logic, Hobbes believes, underlying the illogic of madness and stupidity, and accounting for the workings of this logic is the most powerful weapon in any rational arsenal. Specifically, Hobbes locates error's illogic in the failure to properly discern the fanciful juxtapositions of metaphor. Only by taking hold of error's roots in such misreadings, Hobbes thinks, can we hope to extirpate it entirely. This means that his work must come to grips with the buried sources of stupidity and deceit even as it mows down the poets, priests, and philosophers who stand as error's more public outgrowths. To this end, *Leviathan* joins the satirist's mockery and scorn with the philosopher's treatise on false thinking and spurious reasoning. Hobbes gives Malebranche teeth and Juvenal a system.

At stake in Hobbes's and Swift's complicated borrowings and attacks, then, is not only the status of their satire but the question of what materialist philosophy could achieve in the late seventeenth century. For Swift, matter without the animating power of soul or mind is dead, inert, and blank. Or to put this in slightly different terms: for Swift, mind and matter are separate and distinct entities. Hence, to maintain that the world is mere matter is to erase this crucial distinction and thereby to rob it of form, meaning, and thought.¹⁰ And while it is true that Swift, like many of the Scriblerians, often describes his poetic and philosophical enemies as impulsive machines or unthinking bodies, his point is not that matter can think or create, but that his rivals cannot. Swift does not imbue matter with the dignity of thought; he debases his adversaries by exposing the indignity of their thoughtlessness (a point that I discuss more fully in Chapter 3).

It would be a mistake, though, to imagine that Swift's view of matter was shared by all of his contemporaries. As I'll demonstrate in the following pages, Hobbes's philosophy does not subscribe to a Swiftian conception of matter as lifeless and static. For Hobbes, matter can take on different forms and attributes; some kinds of matter (like human beings) can think and reason, while other kinds (like stones) persist in an insentient state. The goal of Hobbes's materialism is to account for the differences of matter, to track the way in which the same material substance can produce distinct kinds of bodies. In one of the fullest accounts of Hobbesian materialism, Samantha Frost has noted that Hobbes's conception of matter lends itself to "a variegated materialism, a materialism that acknowledges that matter can take distinctive forms and be organized in varied and particular ways."¹¹ Following Frost, I will show that Hobbes's variegated materialism can account not only for different sorts of matter—like living, thinking

¹⁰ For a broad overview of Swift's thoughts on matter see Carol H. Flynn, *The Body in Swift and Defoe* (Cambridge: Cambridge University Press, 1990), esp. 177 – 179.

¹¹ Samantha Frost, *Lessons from a Materialist Thinker: Hobbesian Reflections on Ethics and Politics* (Stanford: Stanford University Press, 2008), 21.

beings and dead, senseless stones—it can also sustain a satire that defends difference in the face of reduction. Indeed, it can even produce an account of how figurative language works (or fails to work) that can fuel a satire like Swift’s.

This chapter has four sections. In the first (“The Matter of Madness”) I discuss Swift’s attacks on materialism. I show that Swift continually connects materialism to reduction, and that his quarrel with the “modern” (in some sense exemplified by a materialist like Hobbes) is that this figure creates totalizing systems that flatten more prudent and humanistic models of thought (models to which Swift, an Anglican apologist, would have adhered). In the second (“Difference Matters”) I launch a sort of “defense” of Hobbes’s thought against Swift’s attacks. I demonstrate that Hobbes makes difference and distinction a cornerstone of his thought. For Hobbes, matter at its most fundamental level is discrete and particulate (we might even say “atomistic”). It is the task of reason to track the way in which discrete elements link together and to ensure that these linkages never collapse into confusion. Hence, like Swift, Hobbes can be understood as an anti-reductive thinker. I begin the third section (“Metaphor and Materialism”) by demonstrating how Hobbes’s writings on figurative language parallel his more general claims about how matter works. Just as metaphors compare distinct elements without collapsing them, Hobbesian materialism similarly entails that atomic elements should interact without mixing. The fourth section (“Literalizing Leviathan”) returns to Swift and more specifically to his satire on Hobbes. Having established the connection between Hobbes’s anti-reductive materialism and his work of figure, I then show how Swift’s “literalizing” projects an absurd confusion on to Hobbes’s thought.

I. THE MATTER OF MADNESS

I Remember some Years ago a Virtuoso writ a small Tract about Worms, proved them to be in more Places than was generally observed, and made some Discoveries by Glasses. This having met with some Reception, presently the poor Man's Head was full of nothing but Worms; all we eat and drink, all the whole Consistence of human Bodies, and those of every other Animal, the very air we breathe; in short, all Nature throughout was nothing but Worms: And by that System, he solved all Difficulties, and from thence all causes in Philosophy.

Jonathan Swift, *Remarks upon a Book, Intitled, "The Rights of the Christian Church, &c."*¹²

It is customary to think of Swift's satire as an exemplar of a critical, if retrograde, view of modernity, a view influenced by the prudent humanism of Hooker, Temple, and the Anglican Rationalists and outraged by the perceived excesses of Hobbes, Descartes, and the Royal Society.¹³ As scholars like Douglas Lane Patey, Warren Montag, and Frank T. Boyle have reminded us, Swift's invective against the Moderns—and their crowning achievement, the scientific revolution of the seventeenth century—is aimed not at specific instances of scientific or philosophical folly (an undue emphasis on empiricism, experiment, and technology, for instance) but at the tendency, prevalent in Modern thought, to create what Boyle calls “degenerate, always false, systems of ultimate truth.”¹⁴ Maddeningly rationalist, heedlessly progressive, dogmatically skeptical, and above all irrationally attached to the claims and methods of the burgeoning new science, the modern mind as we find it reflected in Swift's satiric glass is always hard at work reducing complex and multifaceted phenomena into the simplicity and

¹² Jonathan Swift, *The Prose Works of Jonathan Swift*, eds. Herbert J. Davis and Irvin Ehrenpreis (Oxford: B. Blackwell, 1939), vol. 3, 91 – 92.

¹³ For Swift's relationship to these thinkers see Philip Harth, *Swift and Anglican Rationalism: The Religious Background of a Tale of a Tub* (Chicago: University of Chicago Press, 1961), esp. 21 – 23.

¹⁴ See Douglas Lane Patey, “Swift's Satire on ‘Science’ and the Structure of *Gulliver's Travels*,” *ELH*, Vol. 58, No. 4 (Winter 1991), 809 – 839; Warren Montag, *The Unthinkable Swift: The Spontaneous Philosophy of a Church of England Man* (London: Verso, 1994), esp. 19; and Frank T. Boyle, *Swift As Nemesis: Modernity and Its Satirist* (Stanford, Calif: Stanford University Press, 2000), 147. Patey, Montag, and Boyle's insistence that Swift attacks the falsely systematic nature of science and other modern schemes—rather than simply the specific content of these “systems”—differs from earlier appraisal of Swift's reaction to modern thought. These earlier appraisals argued that Swift rebelled against the modern mind and its scientific inflection because such a mind was, e.g., too utilitarian in character (cf., Bacon) or even too impractical (cf., Descartes). For this earlier work see, Miriam K. Starkman, *Swift's Satire on Learning in a Tale of a Tub* (Princeton, N.J: Princeton University Press, 1950), esp. 71 - 86.

certainty of a readymade system. In the above epigraph, for example, Swift does not attack the unnamed virtuoso for his empirical rigor—his “Discoveries by Glasses” that would make Robert Hooke proud—but for his insistence that the insights of his “small Tract” can worm their way into a massive, all-encompassing system that can answer any philosophical difficulty. Following scholars like Boyle, I’ll argue that, for Swift, the danger of such systems is in their propensity to simplify an otherwise multifarious reality. Thanks to the Modern’s reductions, difference and divergence are made to conform to predefined patterns, while moments of particularity are readily digested and homogenized into an overarching scheme. Hence, Swift’s virtuoso only can solve “all causes in Philosophy” by arguing senselessly that all nature is worms.

Materialism—especially, as we will see, the Hobbesian variety—served as an archetype for the sort of simplifying Modern thought Swift assaulted and abhorred. To claim, as Hobbes does, that “every part of the Universe, is Body; and that which is not Body, is no part of the Universe” is to institute a system that in Swift’s view flattens reality so as to (falsely) explicate its complexities.¹⁵ On this point Swift was not alone in his indignation. While materialism in general and “Hobbism” in particular were attacked for a number of reasons in the late seventeenth and early eighteenth centuries—such philosophies were said to promote atheism, tyranny, determinism, libertinism, and other scurrilous behavior—an even more fundamental objection frequently emerges in contemporary criticisms of Hobbes’s thought: namely, that his philosophy simply cannot explain the evident diversity of the world.¹⁶ Many of *Leviathan*’s earliest readers (and fiercest critics) wondered, for example, how Hobbes’s system, with its founding axiom that everything in the universe is merely “Body,” could distinguish between the

¹⁵ Thomas Hobbes, *Leviathan*, ed. Richard Tuck (Cambridge: Cambridge University Press, 1991), 463. Hereafter cited as *Lev*.

¹⁶ Besides for Jon Parkin’s aforementioned *Taming the Leviathan*, see also Samuel I. Mintz, *The Hunting of Leviathan* (Cambridge: Cambridge University Press, 1962), a work which focuses more particularly on reactions to Hobbes’s materialism and purported atheism.

sorts of bodies that thought, reasoned, and desired (like human beings) and the sort that persisted in an inert, passive, and mute state (like stones). If body and matter can think, asked Thomas Tenison, “might we not strongly argue, that a Looking-glass saw, and a Lute heard?”¹⁷ Richard Bentley posed a similarly derisive question concerning the role of motion in materialist accounts of the mind: if “Motion in general or any degree of its velocity can beget Cogitation; surely a Ship under sail must be a most intelligent Creature; though while she lies at Anchor, those Faculties be asleep.”¹⁸

Tenison and Bentley’s queries are not efforts to think through the implications of a pansychist universe, a world where even mere matter like lutes and ships could evince the qualities of thought. On the contrary, such statements are a sneering attempt both to police the boundary between thinking beings and thoughtless things and to discredit the materialist philosophy that ostensibly erases that divide. In such statements we can detect what Pat Rogers has called the “primal fear” of the late seventeenth and early eighteenth centuries: “not that things would fall apart, but that everything would somehow merge.”¹⁹ This was precisely the fear that Swift played upon in his portraits of the Modern materialist.

*

Consider Section IX of *A Tale of a Tub*, “A Digression concerning Madness,” perhaps the fullest account of materialist reduction in that work and a moment where the Hack manages to confound mind and matter in exactly the way that Tenison and Bentley had feared materialism would. Here Swift dramatizes the materialist’s efforts to reduce reality to a single physical principle—to merge everything—by recreating the Hack’s deliberations concerning the source of

¹⁷ Thomas Tenison, *The creed of Mr. Hobbes examined in a feigned conference between him and a student in divinity* (1670), 80.

¹⁸ Richard Bentley, *Matter and motion cannot think* (1692), 20.

¹⁹ Pat Rogers, *An Introduction to Pope* (London: Methuen, 1975), 128.

madness. The Hack argues in fact that all mental aberration can be traced to the roiling of vapors in the brain. Since the Hack attributes madness to a physical source—rather than to supernatural forces or to moral failings, as some near contemporary thinkers would—his theory is, at least in part, a parody of the sort of physiological reduction we might expect to find in soulless Modern materialists. As Michael V. DePorte explains, in stitching together the “Digression concerning Madness,” Swift “emphasizes the mechanistic implications of the theory of vapors in order to burlesque modern sciences” and “those disciples of Hobbes and Descartes who see man as a machine animated by material forces.”²⁰ For example, when the Hack wonders what sort of madness possessed Henry IV to conquer neighboring nations, he launches into a physico-mechanical account of mental derangement that recalls similar theories in the work of Hobbes and Descartes. The prince, it turns out, can be likened to a machine fuelled by lust:

What secret Wheel, what hidden Spring could put into Motion so wonderful an Engine [as Henry IV]? It was afterwards discovered, that the Movement of this whole Machine had been directed by an absent *Female*, whose Eyes had raised a Protuberancy, and before Emission, she was removed into an Enemy’s Country. ... HAVING to no purpose used all peaceable Endeavours, the collected part of the *Semen*, raised and enflamed, became adust, converted to Choler, turned head upon the spinal Duct, and ascended to the Brain.²¹

²⁰ See DePorte, *Nightmares and Hobbyhorses: Swift, Sterne, and Augustan Ideas of Madness* (San Marino, Calif.: Huntington Library, 1974), 62. It certainly was possible to be a mechanist and also to believe in an immaterial soul or mind distinct from the body—indeed, this was precisely Descartes’s position. But for Swift this distinction made no sense: mechanism implied materialism and materialism in turn implied mindlessness.

²¹ It’s worth noting that this passage is also a subtle parody of Hobbes, since the latter says something similar about the wheels and springs of the human body in the beginning of *Leviathan*: “For what is the *Heart*, but a *Spring*; and the *Nerves*, but so many *Strings*; and the *Joynts*, but so many *Wheels*, giving motion to the whole Body?” (Hobbes, *Lev.*, 9).

In practice, Swift's materialists, like the Hack in this section of the *Tale*, begin by acknowledging "higher," more complex, and often ostensibly non-material phenomena. However, having done so, they then drill downward, slowly sacrificing difference and complexity along the way so as to arrive finally at a base, common, and corporeal substratum that levels reality rather than explaining it. The Hack opens his digression on madness, for example, by noting that a diversity of factors (many of them non-physical) could cause mental derangement. According to him, it would appear that people have been made mad by "their Dyet, their Education, the Prevalency of some certain Temper, together with the particular influence of Air and Climate" (*Tale* 162). Even chance and accident seem to have a role to play in mental illness since "there is something Individual in human Minds, that easily kindles at the accidental Approach and Collision of certain Circumstances" (*Tale* 162). But after admitting the many ostensible sources of madness, the Hack then dismisses this diversity in order to focus on a more fundamental material cause: vapors that cloud the brain.

[I]t is of no import, where the Fire was kindled, if the Vapor has once got up into the Brain. For the *upper Region* of Man, is furnished like the *middle Region* of the Air; The Materials are formed from Causes of the widest Difference, yet produce at last the same Substance and Effect. Mists arise from the Earth, Steam from Dunghills, Exhalations from the Sea, and Smoak from Fire; yet all Clouds are the same in Composition, as well as Consequences: and the Fumes issuing from a Jakes, will furnish as comely and useful a Vapor, as Incense from an Altar. Thus far, I suppose, will easily be granted me; and then it will follow, that as the Face of Nature never produces Rain, but when it is overcast and disturbed, so Human Understanding, seated in the Brain, must be troubled and overspread by

Vapours, ascending from the lower Faculties, to water the Invention, and render it fruitful (*Tale* 162 – 163).

Here we can see that, from the materialist perspective, “Causes of the widest difference” can nevertheless be reduced to the “same Substance and Effect.” Indeed, according to the Hack’s reasoning, since everything is on some fundamental level a kind of vapor, it follows that everything is the same. Where the sane see difference and distinction, the Hack recognizes only a series of similarities. In his system, everything merges as his initial act of reduction—attributing madness to a single physiological source rather than to a variety of environmental and cultural factors—sparks a leveling conflagration: all madness results from vapors; all vapors (even those that rise from an altar and those that fume from a jakes) are the same; in fact, the understanding and the atmosphere are the same, since both are subject to vaporous conditions. Like Tenison’s and Bentley’s warnings about the materialist making looking-glasses see and ships think, the Hack manages to erase the dividing line between the human mind and that other bit of mere matter—the vaporous body that is the “Face of Nature.”

In the Hack’s hands, then, physiological theories of madness—with their undue emphasis on the merely material aspects of the diseased mind and with their insistence on confusing differences—are made mad. But as is customary in the *Tale*, the Hack’s folly shades into a kind of demented wisdom as he begins to mouth convictions that sound strangely close to Swift’s own. The Hack explains, for example, that the surest sign of madness is a propensity for the sort of the reductive systems that Swift’s work attempts to identify and annihilate. According to the Hack, “*The Establishment of New Empires by Conquest: The Advancement and Progress of New Schemes in Philosophy; and the contriving, as well as propagating of New Religions*” are all due to madness. “For, what Man in the natural State, or Course of Thinking,” asks the Hack, “did

ever conceive it in his Power, to reduce the Notions of all Mankind, exactly to the same Length, and Breadth, and Heighth of his own?" The Hack has in mind figures like "*Epicurus, Diogenes, Apollonius, Lucretius, Paracelsus, Des Cartes*, and others; who, if there now in the World, tied fast, and separate from their Followers, would in this our undistinguishing Age, incur manifest Danger of *Phlebotomy*, and *Whips*, and *Chains*, and *dark Chambers*, and *Straw*." This parade of mad men—a mix of ancient and modern innovators, of radical divines and scurrilous atheists—might appear to us as a hopeless hodgepodge of names, thrown together without a common ordering principle. But as Roger Lund notes, in the late seventeenth century, every person on the Hack's list (even poor dualist Descartes) would have been perceived as a dangerous materialist and atheist.²² And it is materialism that serves as the engine for these thinkers' mad reductions:

Epicurus, modestly hoped that one Time or other, a certain Fortuitous Concourse of all Mens Opinions, after perpetual Justlings, the Sharp with the Smooth, the Light and the Heavy, the Round and the Square, would by certain *Clinamina*, unite in the Notions of *Atoms* and *Void*, as these did in the Originals of all Things. *Cartesius* reckoned to see before he died, the Sentiments of all Philosophers, like so many lesser Stars in his *Romantick* System, rapt and drawn into his own *Vortex*.

Here Epicurean atomism and Cartesian physics are not simply systems that set out to explain the workings of the physical universe; they are also attempts to tyrannize and eradicate competing models.

²² Roger D. Lund, "Strange Complicities: Atheism and Conspiracy in *A Tale of a Tube*," *Eighteenth-Century Life*, 13 (1989), 43.

Nevertheless, it would be a mistake to claim that the Hack, like Swift, simply condemns the madness of materialist reduction. Indeed, there is a grand joke at play in the “Digression concerning Madness” that, to my knowledge, has never been explained fully. Having linked madness, materialism, and reduction in the work of thinkers like Epicurus and Descartes, the Hack goes on to explain that his own system—the vapor theory—is the most madly reductive scheme of all. The only way to account for the pathology of an Epicurus or Descartes, the Hack contends, is by looking to the vapors that cloud their minds. The above-cited passage continues: “Now I would gladly be informed, how it is possible to account for such Imaginations as [Descartes’ and Lucretius’] in particular Men, without Recourse to my *Phoenomenon of Vapors*, ascending from the lower Faculties to over-shadow the Brain, and thence distilling into Conceptions” (*Tale* 170). In other words, the Hack’s materialist system is an attempt to reduce all previous forms of materialism to an even more fundamental principle: the brain. What such theories cannot account for, of course, is how difference or individuality could arise from the overwhelming sameness of vapors. When the Hack considers this question later in the same section—a moment where he promises to reveal how vapor “can produce effects of so vast a Difference ... as to be the sole Point of Individuation between *Alexander the Great*, *Jack of Leyden*, and *Monsieur Des Cartes*”—the manuscript simply breaks off in a flurry of atomic asterisks as if the matter of the page itself had swallowed up the attempted answer (*Tale* 170).

*

For Swift, then, materialism is indistinguishable from the sort of systematic reduction that is the hallmark of Modern thought.²³ This is a contention that sounds throughout his work. One

²³ Irvin Ehrenpreis has argued that Swift’s attacks on thinkers like Hobbes are aimed not at the content of their thought (for example, their insistence that the universe is only matter) but at their more general reductive

of his earliest poems, the “Ode to the Athenian Society,” rails against “the atheists of the age” who “fain would rule the pulpit, as they do the stage ... By the new modish system of reducing all to sense.”²⁴ Such figures reappear—on the stage and in the pulpit—in the later *Tale of a Tub*, a work bristling with reductive materialist schemes and schemers. Along with the Hack’s senseless vapor theory, the *Tale* details the philosophies of the Sartorists—who believe that the cosmos, cultural institutions, and mental faculties can be reduced to clothing—and the Aeolists—who contend that souls, language, and knowledge are simply billowy inflections of air. Despite the evident differences in their systems, Swift’s materialists share a conviction that the spiritual, the abstract, the cultural, and the mental must be accounted for on a more elementary material level. Like the virtuoso and his worms, they reduce reality to a single substantive principle, thereby erasing its differences. For them, the universe is vapor—or clothing or air or worms—all the way down.

tendencies. According to Ehrenpreis, it is the Modern’s proselytizing and systematizing—and not materialism or atheism as such—that troubles Swift. But as I’ve tried to argue here, for Swift, the content of materialism *is* reductive; to claim that all reality is matter is to reduce it. See Ehrenpreis, “The Doctrine of a Tale of a Tub” in *Proceedings of the First Münster Symposium on Jonathan Swift*, eds. Real and Vienken (München: W. Fink, 1985), 64.

²⁴ Jonathan Swift, *The Poems of Jonathan Swift*, ed. Harold H. Williams (Oxford: Clarendon Press, 1958), vol. 1, 19.

II. DIFFERENCE MATTERS

In addition to creating madly reductive systems, the materialists of *A Tale of a Tub* have something else in common: they all parody aspects of Hobbes's thought. The "Digression concerning Madness" references *Leviathan* both in its full title—"A Digression concerning the Original, the Use and Improvement of Madness in a Commonwealth"—and in its portrayal of the mad as mere machines governed by the hydraulic pressures of vapor. Likewise, as I'll discuss in more detail below, Swift's portraits of both the Aeolists and the Sartorists are inspired by particular moments in Hobbes's work. That *Leviathan* looms so large in Swift's satire is unsurprising given the prominence (and infamy) that work had achieved by the time *A Tale of a Tub* appeared. In 1640, before publishing his major texts, Hobbes had, as Jon Parkin notes, "a minor reputation as a respected translator and pastoral poet."²⁵ But by 1700, after the flood of titles that would make his name in the world of letters, he was referred to as the "Monster of Malmesbury" and the "Devil's Secretary."²⁶ More specifically, in a work like *A Tale of a Tub*, *Leviathan* served as a monstrous avatar for the reductive tendencies of the Modern mind. As Alan S. Fisher explains, for prudent humanists like Swift, "Hobbes's whole discourse seem[ed] as if a mechanistic world had been ruthlessly imposed upon one that is more humane."²⁷

Yet the contention that Hobbes's philosophy imposes similarity and system onto an otherwise diverse existence is itself an imposition on his thought—one perpetrated (as we will see) by Swift's satire. Hobbes's philosophy does seek to explain a diversity of phenomena by means of simple but fundamental mechanisms—specifically, matter and motion. But Hobbes's drive toward a kind of reduction is balanced by an equally potent desire to account for difference, distinction, and complexity. Whereas Swift's materialists move ever downward in

²⁵ Parkin, *Taming the Leviathan*, 1.

²⁶ Ibid. 1

²⁷ Fisher, "An End to the Renaissance," 12.

their quest to reduce heterogeneity to simplicity, Hobbes tends to move in the opposite direction: he “reduces” things to their constituent elements as a means of understanding how order and form arise from the interaction of these distinct and particular pieces. In this respect, his philosophy resembles that other great avatar of materialism in the seventeenth century: Lucretius’ *De rerum natura*, a poem translated fully for the first time in 1682 by Thomas Creech. As Jonathan Kramnick points out, much of Lucretius’ work is concerned with “the principles according to which ‘small things rise to great’ (i.38 [2.123-4]).”²⁸ Because it details how atoms “tend to collide, stick together, and make things [like] people, rocks, oceans, worms,” Lucretius’ materialism entails that “the physical structure of the world is consistent with the emergence of whole objects from constituent parts.”²⁹

Although Hobbes himself did not countenance the atomism of Lucretius or his forebear Epicurus—he denied the existence of the void or vacuum where atoms were said to swerve—his own thought proceeds along similar lines. Like Lucretius, Hobbes is also interested in how “small things rise to great.” For example, his “resolutive-compositive” science, which he inherited partly from thinkers like Galileo and Harvey, dictates that everything from geometrical figures to commonwealths can be broken into more fundamental components and then reassembled in order to better grasp their design.³⁰ According to the rules of this science, reduction is only a first step in a process that ultimately comprehends more complex entities. As Hobbes explains: “[I]t is necessary that we know the things that are to be compounded, before we can know the whole compound” (*DC* 67). In order to properly understand civil society, for

²⁸ Jonathan B. Kramnick, *Actions and Objects from Hobbes to Richardson* (Stanford, Calif: Stanford University Press, 2010), 63.

²⁹ *Ibid.*, 63.

³⁰ On Hobbes’s method see Tom Sorrell, *Hobbes* (Routledge, 1986), 18 – 24; and Noel Malcom, “Hobbes’s Science of Politics and his Theory of Science” in *Aspects of Hobbes* (Oxford: Oxford University Press, 2002), 146 - 155. For Hobbes’s debt to Harvey and Galileo see J. W. N. Watkins, *Hobbes’s System of Ideas: A Study in the Political Significance of Philosophical Theories* (London: Hutchinson, 1965), 32 – 44.

instance, Hobbes suggests that “it be taken in sunder, and viewed in parts,” as if one were disassembling a watch in the hope of grasping how the movement of its gears keep time.³¹ The implication here is that to fully understand a thing, we must be prepared to dissect it, to view its parts independent of the whole, and then to reason about the ways in which those parts work together as a more complex mechanism. Hence, rather than simply merging otherwise unlike entities in a quest to reduce reality to its most fundamental and common level, Hobbesian materialism instead attends to the way in which fundamentally particular and discrete elements interact in order to realize more complicated structures. For Hobbes, everything may be matter, but matter itself can attain difference, complexity, and heterogeneity.

Hobbes’s concern with analyzing and recomposing, with building or recasting something larger from constituent elements is evident in nearly any subject he takes up. For example, he maintains that, when using language properly, we begin by first defining our words, then joining these words together into assertions; similarly, we join assertions to create longer syllogisms, and so forth.³² Hobbes’s conception of mental life abides by the same logic: in the corporeal mind, a variety of atomistic ideas link together as a “trayne of imaginations,” thereby forming more complex chains of thought from otherwise distinct sense impressions.³³ Likewise, when we reason, we add or subtract thoughts or words in order “either to collect the sum of many things that are added together, or to know what remains when one thing is taken out of another” (*DC* 3). Even anamorphic toys, which combine a kaleidoscopic variety into a single image, captured Hobbes’s attention.³⁴ One of these toys inspired perhaps the most striking visual embodiment of

³¹ Thomas Hobbes, *De cive*, in *Man and Citizen: Thomas Hobbes's De Homine*, ed. Gert (Garden City, N.Y: Anchor Books, 1972), 32.

³² See *Leviathan*, Chap. 4, “Of Speech.”

³³ See *Leviathan*, Chap. 3, “Of the Consequence or Trayne of Imaginations.”

³⁴ See Malcolm, “The Title Page of *Leviathan* Seen in a Curious Perspective” in *Aspects of Hobbes* (Oxford: Clarendon Press, 2002), 200 – 229.

his concerns: the frontispiece of the 1651 *Leviathan*. An image of the commonwealth made flesh, the frontispiece depicts a giant (the sovereign) whose body is comprised of hundreds of tiny individuals (citizens). The frontispiece, of course, serves as a visual analogue to Hobbes's theory of sovereignty. The sovereign, Hobbes believes, brings unity to an otherwise chaotic diversity of warring wills and divergent passions. And yet, as Noel Malcolm notes, even in illustrating this aspect of his political thought, Hobbes was careful to choose an image that demonstrates the way in which unity (represented in this instance by the sovereign's head) arises from distinct elements (the myriad bodies of the citizens)—distinct elements that do not disappear from this image or from Hobbes's philosophy more generally.³⁵

*

In detailing these aspects of Hobbes's work, I don't mean simply to defend his thought against Swift's attacks. Rather, I want to stress a deeper similarity between the two writers. Because his method is one of both analysis *and* synthesis, Hobbes, like Swift, is an anti-reductive thinker. Swift faults materialists for adhering to a philosophical system that posits absurd identities and confusions in the face of evident differences. But Hobbes's version of materialism entails that all compositions—commonwealths, watches, trains of thought, linguistic statements—can be resolved into differential elements. Even more importantly, by tasking reason with tracking the way in which these differential elements link together and combine, his materialism keeps difference and distinction alive even within the confusions of compositions.

In other words, for Hobbes, difference matters. In fact, when Hobbes attacks the thought of his opponents, he accuses them of precisely the sort of reductive tendencies Swift finds at work in materialism: mixing unlike things, ignoring critical differences, being unable to account

³⁵ Malcolm, "The Title Page of *Leviathan* Seen in a Curious Perspective," 225.

for complexity or individuation. For Hobbes, mixture comes to embody the dangers of error and ideology. For example, in one of his first major works, the 1642 *De Cive*, Hobbes compares ancient moral philosophy—which was usually democratic or republican in nature and hence dangerous to sovereignty—to the centaur, his favorite example of the unnatural and confused:

For they say, that when Ixion was invited by Jupiter to a banquet, he fell in love, and began to court Juno herself. Offering to embrace her, he clasped a cloud; from whence the Centaurs proceeded, by nature half men, half horses, a fierce, a fighting, and unquiet generation. Which changing the names only, is as much as if they should have said, that private men being called to councils of state, desired to prostitute justice, the only sister and wife of the supreme, to their own judgments and apprehensions; but embracing a false and empty shadow instead of it, they have begotten those hermaphrodite opinions of moral philosophers, partly right and comely, partly brutal and wild; the causes of all contentions and bloodsheds.³⁶

Ixion's subversion of Jove and his attempted rape of Juno produces offspring that elude identity and solidity, just as the moral philosopher's own act of rebellion (the claim to private judgment and justice) results in a philosophy that seems to join unlike parts. Like the half-human, half-animal centaurs, the "hermaphrodite opinions" of moral philosophy are "comely" in one respect (probably in their egalitarian aims) and "brutal and wild" in another (that is, in their seditious tendencies).³⁷ A later work, the 1652 *De Corpore*, follows a similar line of attack, though it

³⁶ Thomas Hobbes, *De Cive* in *Man and Citizen*, ed. and trans. Gert (Hackett, 1991), p. 98. All further references are to this edition and are abbreviated in text as *De Cive*.

³⁷ Hobbes's fable is a rewriting of a similar passage in Bacon's *Advancement of Learning*: "Of this kind of learning the fable of Ixion was a figure, who designed to enjoy Juno, the goddess of power; and instead of her had copulation with a cloud, of which mixture begotten centaurs and chimeras. So whosoever shall entertain high and

shifts its target from moral philosophy to contemporary Scholasticism, and it replaces centaurs with an even more outlandish monster—Aristophanes’ *Empusa*³⁸:

From that time, instead of the worship of God, there entered a thing called *school divinity*, walking on one foot firmly, which is the Holy Scripture, but halted on the other rotten foot, which the Apostle Paul called *vain*, and might have called *pernicious philosophy*; for it hath raised an infinite number of controversies in the Christian world concerning religion, and from those controversies, wars. It is like that *Empusa* in the Athenian comic poet, which was taken in Athens for a ghost that changed shapes, having one brazen leg, but the other was the leg of an ass, and was sent, as was believed, by Hecate, as a sign of some approaching evil fortune.³⁹

Once again, an explicitly mixed and confused creature—one with a “brazen leg” and “the leg of an ass”—embodies the danger inherent in a certain mode of thought, namely, “school divinity” and its amalgam of scripture and philosophy. In both these works, then, mixture becomes a sort

vaporous imaginations instead of a laborious and sober inquiry of truth, shall beget hopes and beliefs of strange and impossible shapes.” *The Major Works*, ed. Brian Vickers (Oxford: Oxford UP, 1996), p. 174.

³⁸ The reference is to *The Frogs*, 288. The *Empusa* frightens Dionysos and Xanthias on their trip to hell:

Xanthias: And now I see the most ferocious monster.

Dionysos: O, what’s it like?

Xanthias: Like everything by turns. Now it’s a bull: now it’s a mule: and now the loveliest girl.

In his biography of Apollonius of Tyana, the sophist Philostratus notes that the only way to scare off an *empusa* is by “heaping abuse” on it, a bit of advice that Hobbes probably headed: “For they were traveling by bright moonlight, when the figure of an *empusa* or hobgoblin appeared to them, that changed from one form into another, and sometimes vanished into nothing. And Apollonius realized what it was, and himself heaped abuse on the hobgoblin and instructed his party to do the same, saying that this was the right remedy for such a visitation. And the phantasm fled away shrieking even as ghosts do” (2.4).

³⁹ Thomas Hobbes, *De Corpore*, in *The English Works of Thomas Hobbes of Malmesbury*, vol. 1, ed. Molesworth (London, 1839 – 45), p. xi. All further citations are to this edition and are abbreviated in text as *DC*.

of mark of Cain, a reminder that a certain kind of thought is illegitimate, unnatural, and dangerous.

Given his antipathy to mixture, Hobbes unsurprisingly goes on to describe his own philosophy as one of discernment and discrimination. In order to combat error and confusion, Hobbes analyzes and plucks apart mixtures. For example, the above passage from *De Corpore* continues like so: “Against this *Empusa*, I think there cannot be invented a better exorcism, than to *distinguish* between the rules of religion, that is, the rules honouring God, which we have from the laws, and the rules of philosophy, that is, the opinions of private men” (*DC xi*, my italics). If “school divinity” unjustly combines scripture and philosophy, then it is left to the true philosopher to extricate that mixture, “to yield what is due to religion to the Holy Scripture, and what is due to philosophy to natural reason” (*DC xi*). *De Cive* recommends even more radical methods of disentanglement. In a reversal of Ixion’s dissemination of subversion and centaurs, Hobbes explains that his own political philosophy will act as a kind of genealogy, one that traces the commonwealth back to its legitimate source: “I took my beginning from the very matter of civill government,” Hobbes writes, “and thence proceeded to its generation, and form, and the first beginning of justice; for every thing is best understood by its constitutive causes” (*De Cive*, 98). And the only way to arrive at these “constitutive causes” is by taking apart the commonwealth and analyzing the resulting pieces.

*

Swift and Hobbes share a hatred of mixture and confusion, then, but Hobbes differs from Swift in one important way. Unlike Swift, Hobbes discovers reduction at work in the thought of *immaterialists*, that is, in those who maintain that there is an incorporeal soul or spirit separate from bodily matter. When Hobbes considers how people came to believe such absurdities in the

first place, he accuses Scholastic “Schoolmen” and “puzzled philosophers” of combining linguistic terms that ought to have remained distinct, thereby summoning spirits and souls from a linguistic sleight of hand (*Lev.* 30). These thinkers have created monstrous discursive confusions like “incorporeal body” or “in-powred vertue”—the latter meant to signify that God can inspire the holy by imbuing their minds (“in-powr[ing]”) with heavenly virtues. They are

Men [who] make a name of two Names, whose significations are contradictory and inconsistent; as this name, an *incorporeall body*, or (which is all one) an *incorporeall substance*, and a great number more. For whensoever any affirmation is false, the two names of which it is composed, put together and made one, signifie nothing at all. For example, if it be a false affirmation to say *a quadrangle is round*, the word *round quadrangle* signifies nothing; but is a meere sound. So likewise if it be false, to say that vertue can be powred, or blown up and down; the words *In-powred vertue*, *In-blown vertue*, are as absurd and insignificant, as a *round quadrangle* (*Lev.* 30).

In other words, the immaterialists have conjured up spirit and soul from an act of linguistic reduction: in their discourse unlike and even antithetical terms are made one. Thus, for Hobbes, incorporeal bodies are linguistic anomalies that can be exorcised easily once we take a more careful accounting of the way in which distinct terms link together.

In the following section, I will explore further Hobbes’s anti-reductive philosophy by examining some of his attacks on the confusions of the immaterialists—attacks that anticipated Swift’s own satire. More specifically, I will track the way in which Hobbes’s writings on metaphor feed into these attacks. Precisely why metaphor and figurative language become important in Hobbes’s satire on reduction requires some explanation. When Hobbes returns to

the question of spirit, soul, and inspiration later in *Leviathan*, he once again accuses his opponents of mixing otherwise unlike terms, though he is clearer in this instance about why the “puzzled philosophers” have done so in the first place: these thinkers have read metaphorical statements in Scripture as if they were literal. For Hobbes metaphorical language is one instance where “inconsistent” terms can be joined, since metaphors link unlike words and images without establishing their identity. In Hobbes’s view, when we read a metaphor we perceive both similarity and difference; we learn that Achilles is like a lion, but we never confuse Achilles with a real lion. It follows from this conception of trope that a blindly literal reading simply ignores the duality of figurative statements in favor of a flatly reductive reading. With this in mind, we can discern in Hobbes’s writings on figurative language—writings that frequently shade into satires on literal-minded immaterialists—the outlines of his anti-reductive thought.

III. METAPHOR AND MATERIALISM

Hobbes’s attack on immaterialism, then, is aimed not only at a kind of linguistic reduction but also at a flawed hermeneutics, a hermeneutics that ignores figure and metaphor in favor of a blind adherence to the literal. Swift’s *Tale*, of course, faults Hobbesian materialism for precisely this sin. In Swift’s satire, materialism entails a senseless devotion to the literal and to the sort of reductive systems that are erected upon literalist misreadings. But if we examine Hobbes’s work itself we can see that exactly the opposite is the case, that his materialist hermeneutics tends to favor the figural over the literal—it is a metaphorical reading of Scripture that ultimately makes that text accord with materialist premises—and that his anti-reductive thought finds an analogue in the work of metaphor. Just as metaphor compares otherwise unlike

words or images without positing a more fundamental identity, Hobbes's philosophy similarly describes the way in which discrete things can combine without losing essential distinctions. Indeed, the connection between metaphor and materialism is more than skin deep in Hobbes's system. According to Hobbes, metaphor—and the careful balance of identity and difference it sustains—is inscribed within the body and more specifically within the dynamics of the human mind. The human mind—mere matter in motion in Hobbes's world—can only think because it perpetually compares and contrasts the sensible impressions contained within it, meaning that the matter of thought naturally manifests metaphors. Hence, metaphor, like everything else in Hobbes's universe, derives from the body, and it is only by understanding how bodies make tropes that we can understand in turn Hobbes's writings on figurative language, literalism, satire, and ultimately reduction.

With that in mind, one place where Hobbes's materialism and his theory of figure overlap is in his writings on the mind. Hobbes contends that every aspect of mind, from the highest reaches of reason to the lowly work of sense perception, can be accounted for by the flux of matter and motion. Mind, he explains in the course of objecting to Descartes's dualism, is “nothing but the motions in certain parts of an organic body.”⁴⁰ More specifically, according to Hobbes, the internal organs of the body and brain can retain external motions, which, once stored within the body, become “sense” or “phantasms” in his terminology.⁴¹ While Hobbes argues that

⁴⁰ René Descartes, *Meditations, Objections, and Replies*, eds. and trans. Roger Ariew and Donald A. Cress (Indianapolis, IN: Hackett Pub, 2006), 105.

⁴¹ What Hobbes means by sense is made clearest in *De Corpore*. There Hobbes defines the term like so: “Sense ... is some internal motion in the sentient, generated by some internal motion of the parts of the object [that the sentient being is looking at or touching, etc.], and propagated through all the media to the innermost part of the organ [of the sentient being]” (DC 392). In other words, sense is motion within the internal organs of a living creature. Hobbes thinks that the motion of an external object causes a reactive motion in the sentient being, and this reactive motion creates sense. But Hobbes's account of sense cannot stop here, since motion and reaction are only the first steps in the process of sense experience. After all, it would be possible, Hobbes thinks, for two inanimate objects to come into contact and, by way of reacting to one another, to produce a “phantasm” (Hobbes's term for any phenomenal sense experience). This inanimate reaction, though, would not be “sense” in

his materialist psychology will dispel the mad fantasies of rival philosophical systems—systems that portray the mind as a vast psychomachia populated with interdependent and often incorporeal faculties—his depiction of the psyche as a site of retained motion nevertheless points to new possibilities for mental errancy and instability. It is the nature of motion, after all, to remain in a state of persistent flux, and this tendency, now imported into the basis of mental life, would appear to trouble the atomistic and concrete thoughts of a reasonable mind. On this point, Hobbes’s opponents once again stressed that materialism seemed to merge everything—including in this instance the ideas stored within the brain. Thomas Tenison argued that, in the Hobbesian mind, “the Phantasms or divers Motions would be confounded, [since] if in the same part of the Brain, they should conspire.”⁴² Likewise, Joseph Glanvill cautioned with reference to Hobbes that no “material substance within the *Head* can for any considerable space of time conserve *motion*, [for] the former is of such a clammy consistence, that it can no more retain [motion] then a *Quagmire*,” while the motions themselves would be “deadned even to an utter cessation, by *counter-motions*.”⁴³

Nevertheless, in keeping with the “resolutive-compositive” inflection of his philosophy, Hobbes maintains that the material mind can both preserve discrete sense-motions (or “phantasms”) and chain these motions together into a train of ideas. In fact, the material mind

the usual understanding of the word. On the contrary, what makes sense properly sense, in Hobbes’s definition of the term, is not only reaction and motion but also the ability to retain that reactive motion over time. Thus, only creatures with organs “fit for the retaining of such motion as is made in them” are actually sentient (*DC* 393). Since sentient beings can retain motion within them, they can likewise retain past sense impressions, and it is this ability to store up motion that makes sense possible. To put it another way: the capacity for memory and imagination—Hobbes’s terms for old, fading or decaying sense—is integral to sense experience. If I cannot retain motion or remember past sense experiences, then I am insentient.

⁴² Thomas Tenison, *The creed of Mr. Hobbes examined in a feigned conference between him and a student in divinity* (1670), 100.

⁴³ Joseph Glanvill, *The Vanity of Dogmatizing: The Three Versions*, ed. Stephen Medcalf (Brighton: The Harvester Press Ltd, 1970).

can negotiate the motion that courses through its confines partly because it has the capacity to create the surprising similitudes that are the basis for figurative language:

The perpetual arising of phantasms, both in sense and imagination, is that which we commonly call discourse of the mind, and is common to men with other living creatures. For he that thinketh, compareth the phantasms that pass, that is, taketh notice of their likeness or unlikeness to one another. And as he that observes readily the likenesses of things of different natures, or that are very remote from one another, is said to have a good fancy; so he is said to have a good judgment, that finds out the unlikenesses or differences of things that are like one another. *Now this observation of differences is not perception made by a common organ of sense, distinct from sense or perception so called, but is memory of the differences of particular phantasms remaining for some time* (my italics) (DC 399).

In other words, mental acts of comparing and distinguishing *are* sense—and hence matter and motion. According to Hobbes, the corporeal mind does not possess an innate faculty independent from received sense experience—a “common organ” that would somehow apply disembodied logical categories (like similarity and difference) to an undifferentiated flux of retained motion. Instead, the mind perceives differences and similarities because the mind remembers discrete phantasms. Memory holds onto the “*differences of particular phantasms*,” onto difference and identity, meaning that the corporeal mind must perpetually discriminate between different sense impressions while also taking note of inherent similarities. Certain people more readily observe the likenesses of phantasms, while others better perceive the differences; the first have a “good fancy” and the second possess a “good judgment.” Elsewhere Hobbes explains that one’s propensity for either fancy or judgment inculcates different talents:

those with strong judgments are better suited to the critical and often painstaking work required in philosophy and reason, while those with strong fancies can “please, not onley by illustration of [their] discourse, and adorning it with new and apt metaphors; but also by the rarity of their invention” (*Lev.* 51). But when working in unison, fancy and judgment—mere inflections of sense—order the mind by individuating its thoughts and by compelling it to compare and contrast the “perpetual arising of phantasms” that constitutes mental discourse.

For our purposes, what is especially important about Hobbes’s account of the material mind is that, at its most primitive level, a mind of mere matter is also a mind inherently capable of fancy and figuration. While Hobbes is often accused by contemporaries and modern critics alike of quixotically attempting to purge language of metaphor, his materialism gives the lie to this charge.⁴⁴ Rather than eschewing figuration, Hobbes’s vision of the corporeal mind as a depository of long chains of atomistic sense impressions makes fancy and its ability to locate resemblance an indispensable part of mental life. Since the mind continually takes stock of the similarities of its ideas, it is always primed for creating metaphors. Hence, Hobbes naturalizes metaphor by turning trope into an effect of sense and motion. In his materialism, metaphor is a natural byproduct of the dynamics of matter.

Perhaps even more importantly, though, Hobbes’s materialism—with its emphasis on the orderly interplay of similarity *and* difference, fancy *and* judgment—also introduces a check on the otherwise senseless confusions of fancy and figurative language. In his more explicitly

⁴⁴ For attacks on Hobbes seeming denials of metaphor see especially the work of John Eachard. At one point, Eachard quotes a seeming condemnation of metaphor in Hobbes’s writing (specifically one taken from Chapter 5 of *Leviathan*: “that amongst the many causes of the absurd opinions that have been in Philosophy, there has not been any greater, than *the use of Metaphor, Tropes, and other Rhetorical figures, instead of words proper*”), only to spend the next twenty pages listing nearly every metaphor in *Leviathan*, from the innocuous (“a Proposition is the first step in the Progress of Philosophy”) to the hard to miss (“a Commonwealth is an artificial man”). The point is simple though devastating. Hobbes seems to condemn metaphor in one instance and use it in the next. He is either badly confused or a hypocrite. John Eachard, *Some opinions of Mr. Hobbs considered in a second dialogue between Philautus and Timothy*, 165.

literary-critical work, Hobbes explains that judgment helps the mind create tropes by organizing and ordering the sensible impressions within its confines, thereby allowing fancy to quickly locate resemblances amidst otherwise far-flung images. Thanks to the work of judgment, fancy “findes her materials at hand and prepared for use, and needs no more than a swift motion over them, that what she wants, and is there to be had, may not lie too long unespied.”⁴⁵ In a mind well-ordered by the discriminations of judgment, then, fancy can forge “far fetch’t but withal apt, instructive, and comly similitudes.”⁴⁶ These are figures that make an unlikely connection between two ideas (“far fetch’t”) even as they help the mind perceive an otherwise mysterious but ultimately enlightening resemblance amidst its storehouse of retained phantasms (“apt, instructive”). Thus, due to discerning work of judgment, an “apt similitude” can bring together unlike terms without collapsing them; it can note a resemblance but not to the detriment of a difference.

Hobbes’s view of metaphor is surprisingly subtle. What seem at first to be outright rejections of figurative language in his work give way—upon closer analysis—to qualified acceptances. Consider, for example, another ostensible condemnation of figure in *Leviathan*:

In Demonstration, in Councell, and all rigorous search of Truth, Judgment does all; except sometimes the understanding have need to be opened by some apt

⁴⁵ Thomas Hobbes, “Answer to Davenant’s Preface to Gondibert” in *Critical Essays of the Seventeenth Century*, vol. II, ed. Spingarn (Oxford: Clarendon Press, 1908), 59.

⁴⁶ *Ibid.*, 59. This is a rewriting of the letter, though not the spirit, of Aristotle’s *Rhetoric* and *Poetics*. Aristotle himself argues that metaphors should never be far-fetched: “It is also good to use metaphorical words; but the metaphors must not be far-fetched, or they will be difficult to grasp, nor obvious, or they will have no effect.” See *The Complete Works of Aristotle*, vol. II, ed. Barnes (Princeton: Princeton University Press, 1984), 2251. Nevertheless, I take Hobbes to be arguing something similar in the above passage. Metaphors can be far-fetched only insofar as they remain “apt”; that is, they can only avoid either of Aristotle’s two extremes (far-fetched or obvious) by balancing difference and similarity. In fact, on these points, Hobbes is surprisingly close to Aristotle, the figure he purported to despise in all other philosophical and political matters. For Hobbes’s often complicated adaptations of Aristotle’s writing on figurative language, see Elizabeth J. Cook, “Thomas Hobbes and the ‘Far-Fetched,’” *Journal of the Warburg and Courtauld Institutes* 44 (1981).

similitude; and then there is so much use of Fancy. But for Metaphors, they are in this case utterly excluded. For seeing they openly professe deceit; to admit them into Councell, or Reasoning, were manifest folly (*Lev.* 52).

At first glance, Hobbes cordones off metaphor from more serious discourse. Councell, Demonstration, Reason, truth, and judgment stand to one side, while figure, fancy, folly, and deceit stand to the other. The choice seems simple. But a reading like this ignores a number of difficulties in this passage. For one thing, Hobbes's use of "judgment" and "fancy" draws on his technical discussion of those terms. Hobbes believes that judgment "does all" in the "rigorous search for truth" due to its ability to discern and discriminate. Likewise, the claim that fancy can open the understanding "by some apt similitude" alludes to that faculty's ornamental function. With the more technical sense of these terms in mind, we can see that the apparent battle lines of this passage—metaphor squared off against reason and truth—must be drawn a bit differently. In fact, the real antipathy is not between figure and reason at all, but between "apt similitudes," which help the understanding attain new knowledge, and "metaphors," which openly deceive and stymie reason.

Hobbes's distinction may seem at first nonsensical—after all, aren't "similitude" and "metaphor" both words for figural language?—but a more careful reading demonstrates the reasoning beneath the apparent confusion. Hobbes, I think, wants to stress the "apt" in "apt similitudes." It is the "aptness" of certain figures that ensures their viability both as cognitive crutches for the understanding and as the source for surprising but nevertheless apposite resemblances. Hobbes uses "apt" in this sense in his *Answer to Davenant* when he calls for "far fetch't but withal apt, instructive, and comly similitudes," that is, for the sort of figures that

Aristotle would have named “fitting” or “proportional.”⁴⁷ It is this same “aptness,” then, that separates good metaphor from bad. Metaphor can be politically dangerous; it can lead to “contention, sedition, or contempt”; it can set us wandering amidst absurdities in a swamp of deceit. But, under the right conditions, metaphor can also aid the search for truth by furnishing the understanding with “apt similitudes.”

Much of what Hobbes has to say about metaphor, fancy, and judgment, then, parallels his general claims about the importance of attending to the interactions of particular and discrete entities. The fact that fancy and judgment carve the sensible impressions of the brain into atomistic “phantasms” serves as another reminder that—far from merging everything into confusion—Hobbesian materialism makes difference and distinction a cornerstone of thought. Likewise, Hobbes’s insistence that fancy’s figures ought to be regulated by judgment entails that, even when the mind comes closest to confusing unlike ideas or words, difference persists.

That metaphor sustains—rather than eradicates—this careful balance of similarity and difference becomes particularly important in Hobbes’s Scriptural exegeses in the second half of *Leviathan*. It’s there that Hobbes’s normative account of figurative language—an account that stresses the need for the work of fancy as well as judgment in the creation and interpretation of figures—becomes clearer against his portrait of the aforementioned literalist immaterialists. It’s also there that Hobbes’s satire comes to the fore. In contrast to Puritan and non-conformist contemporaries, Hobbes argues that Scriptural hermeneutics must accord with human reason. He readily grants that there are “many things in Gods Word above Reason” but nevertheless insists

⁴⁷ “Aptness” was used in this sense by other rhetoricians, even those writing only a few years before Hobbes. See, for example, Henry Peacham’s *Garden of Eloquence*: “Apt Metaphors have their manifold frutes, and the same both profitable and plesant, which is a thing well known to men of learning and wisdom. First, they give pleasant light to darke things, thereby removing unprofitable and odious obscurities. Secondly, by the aptness of their proportion, and nearnesse of affinitie, they worke in the hearer many effects, they obtaine allowance of his judgment, they move his affections, and minister a pleasure to his wit.”

that “there is nothing contrary to it” in the Bible (*Lev.* 256). In fact, whenever a reading suggests otherwise, the fault is with the interpreter not the source material. To combat these bad readings, Hobbes recommends a hermeneutics rooted in philological scrutiny and natural reason. “[W]hen any thing therein written is too hard for our examination,” he writes, “wee are bidden to captivate our understanding to the Words; and not to labour in sifting out a Philosophical truth by Logick, of such mysteries as are not comprehensible, nor fall under any rule of naturall science” (*Lev.* 256). In practice, this “captivation by words” involves sifting out the literal and figurative meaning of certain scriptural terms in order to arrive at a reading that accords with reason. For example, Hobbes argues that words like “spirit” and “inspiration,” if understood literally, lend themselves to evidently senseless interpretations. “Taken properly,” Hobbes notes, inspiration is

nothing but the blowing into a man some thin and subtile aire, or wind, in such manner as a man filleth a bladder with his breath; or if Spirits be not corporeall, but have their existence only in the fancy, then it is nothing but blowing of a Phantasme; which is improper to say, and impossible; for Phantasmes are not, but only seem to be somewhat (*Lev.* 278).

To put this another way: Hobbes insists that the literal or proper meaning of a term must not confuse different linguistic registers. If Scripture uses materialist words like “blow,” “pour,” or “infuse” to describe inspiration, then a literal reading of that text must follow suit: “inspiration” must be understood as a physical phenomenon like the howling of the wind. Those who read passages on inspiration in this literalist manner—like the enthusiast divines Hobbes implicitly attacks here—end up with an interpretation that is either absurd (since inspiration would denote the act of forcing wind through an otherwise empty head rather than divine guidance) or

impossible and therefore “improper” (since phantasms within the fancy are not physical things and cannot “blow”).

But what must be stressed here is that Hobbes is *not* advocating the literal or proper reading of Scripture. Hobbes’s point is that the proper reading of these terms is actually “improper,” since it forces one to read Scripture in an absurd manner. This point must be stressed since, as we have seen, it is customary among Swift scholars especially to equate Hobbes’s materialism with a self-enforced literalism.⁴⁸ However, this conflation derives from Swift’s satires rather than from Hobbes’s actual claims. In fact, Hobbes argues that a more reasonable interpretation of “inspiration” is the metaphorical one: inspiration should *not* be understood as a physical activity but rather as “some extraordinary *ability* or *affection* of the Mind, or of the Body” (*Lev.* 273). He illustrates this reading with further passages from Scripture:

That word [“inspiration”] therefore is used in the Scripture metaphorically onely
... And where it is said (2 *Tim.* 3.1.16) *all Scripture is given by Inspiration from God*, speaking there of the Scripture of the Old Testament, it is an easie metaphor, to signifie, that God enclined the spirit or mind of those Writers, to write that which should be useful, in teaching, reprovng, correcting, and instructing men in the way of righteous living. ... So likewise when God sayes (*Joel* 2.28.) *I will powre out my Spirit upon all flesh, and your Sons and your Daughters shall prophecy, your Old men shall dream Dreams, and your Young men shall see Visions*, wee are not to understand it in the proper sense, as if his *Spirit* were like water, subject to effusion, or infusion; but as if God had promised to give them

⁴⁸ For example, Everett Zimmerman argues that “Hobbes’s biblical interpretation, which is extensive, is as materialistic as his philosophy. His transformation of the terms of spirit to physical entities verges on the parodic.” See Zimmerman, *Swift’s Narrative Satire*, 46.

Prophetically Dreams, and Visions. For the proper use of the word *infused*, in speaking of the graces of God, is an abuse of it; for those graces are Vertues, not Bodies to be carryed hither and thither, and to be powred into men, as into barrels (*Lev. 279*).

Unlike the literal reading, the metaphorical reading is not tied down to the absurd interpretation of “inspiration.” Still more importantly, unlike the literal interpretation of the passage, the metaphorical reading *can* move between otherwise distinct linguistic registers; it can make a “vertue” (“the graces of God”) sound like a “body” (“powre out”). This is a conclusion in keeping with Hobbes’s own views of metaphor (as a reasonable juxtaposition or mixing of unlike words or ideas) as well as the traditional understanding of figure (as a “translation” or “transposition” of names). Instead of keeping two names in a careful balance of similarity and difference—“in-powred vertue” poised between materialist and spiritual registers—the literalist interpretation confuses those terms.

*

Swift we know borrows these images—and their basis in a false literalization—in the Aeolist episode of the *Tale*. In that section of the *Tale*, the Hack reveals that the doctrine of Aeolism—the belief that the “Original and Cause of all Things [is] *Wind*”—originates in part from misreading a figure of speech, one taken from Corinthians: “First, it is generally affirmed, or confess’d that Learning *puffeth Men up*.” In other words—to translate an evidently figurative phrase—learning can make one arrogant. But the Aeolists characteristically miss the figurative significance of this maxim and launch into a grotesque literalist interpretation: “And Secondly, [the Aeolists] proved it by the following Syllogism; *Words are but Wind; and Learning is nothing but Words; Ergo, Learning is nothing but Wind*” (*Tale* 153 – 154). In one respect, this

passage simply recreates Hobbes's attack on the literal readings of the immaterialist divines. However, in inventing the Aeolists, Swift means to satirize not only religious radicals (as Hobbes had) but also irreligious materialists. After all, the Aeolists' contention that everything is wind also applies to the soul: "For, whether you please to call the *Forma informans* of Man, by the Name of *Spiritus*, *Animus*, *Afflatus*, or *Anima*; What are all these but several Appellations for *Wind*?" Given Swift's influential reading of Hobbes, it's unsurprising that Hopkins would characterize the Aeolist episode as "both a satire of enthusiasm *and* a satire of Hobbist literalism." Nevertheless, as I've tried to demonstrate, there is no such thing as "Hobbist literalism" if we take "literalism" to mean a rejection of figurative duality. On the contrary, Hobbes attacks precisely this literalism in his own work.

IV. LITERALIZING LEVIATHAN

But if—properly speaking—there is no such thing as Hobbesian literalism, then why does Swift impute this sort of hermeneutic to Hobbes and materialism more generally? Why does literalism become synonymous with materialism in Swift's writing, even though Hobbes himself attacks literalism as an error in *immaterialist* readings of Scripture? These questions become less perplexing if we remember that, for Hobbes, literalism results from a failure to recognize the duality inherent in figurative expressions. As we saw, in his work, the correct, metaphorical reading of Scriptural phrases like "inspiration" or "in-powred vertue" shuttles between the physical meaning of these terms and their figurative import. Conversely, the false literalization of these terms ignores this play of similarity and difference; in literalist readings, only the physical meaning of such terms survives, meaning that the inspired are not filled with the spirit

of God but with air. In other words, in Hobbes's work, literalism becomes the language of reduction, and it's the connection between literalism and reduction—and not simply Hobbes's play on wind and inspiration—that Swift ultimately inherits from *Leviathan*. But if literalism is the language of reduction, then it becomes the ideal means of expressing Swift's version of materialism: a philosophy that fails to perceive the difference between an altar and jakes, a human being and a puff of air. Hence, what is portrayed as pathology and madness in Hobbes's thought—namely, the quality of mind that finds only similarity and thereby produces false figures—becomes the defining feature of his system in Swift's ironic retelling of it.

To be sure, Swift, unlike Hobbes, never develops a fully fleshed-out theory of figurative language, though his ironic misuse of metaphor throughout the *Tale* leaves little doubt that his own views on figure accord with Hobbes's. For instance, in a moment of seeming self-diagnosis, the Hack author of *A Tale* explains that certain scholars possess what he calls the “converting imagination,” a “peculiar Talent [that] lies in fixing Tropes and Allegories to the Letter, and refining what is Literal into Figure and Mystery” (*Tale* 190). In practice, the converting imagination confuses the figurative and proper meanings of terms. Thanks to the converting imagination, when the Hack reads that “A certain Author ... say[s] of *Criticks*, that *their Writings are the Mirrors of Learning*” he interprets the evidently metaphorical statement “in a literal Sense” and begins to discourse on the different kinds of mirrors (brass or quicksilver) used by ancient writers. As Maurice Quinlan notes: “Much of the humor of [the *Tale*] resides in the failure of the hack to perceive the duality implicit in his own statements—the metaphorical significance of his literal terms and the literal meaning of some of his metaphors.”⁴⁹

⁴⁹ Maurice J. Quinlan, “Swift's Use of Literalization as a Rhetorical Device,” *PMLA*, 82, No. 7 (Dec. 1967), 516 – 521. To be sure, as both the Hack and Quinlan note, the converting imagination goes both ways, that is, it can literalize metaphors even as it metaphorizes the literal (“refining what is Literal into Figure and Mystery”). In practice,

Quinlan's description of the Hack's language as a "failure of duality" resonates with Hobbes's own theories of figurative language and with the concerns of his anti-reductive philosophy more generally. In fact, Hobbes's apt or fitting metaphors could be described as "achievements of duality" since they balance similarity and difference, fancy and judgment. Swift, then, not only borrows Hobbes's satirical images (the Aeolists), he also shares theory of metaphor (and its mismanagement) that Hobbes develops. But the similarities between Swift and Hobbes are often buried beneath more obvious differences. In fact, we can witness Swift's satire performing the burial. Swift does more than merely reproduce Hobbes's literalized figures in the *Tale*, he also turns Hobbes's philosophy of figure against its creator by making literalization a centerpiece of materialist thought. One of the purposes of Swift's ironic rewritings of Hobbesian materialism in the *Tale* is to demonstrate that the Hack's reductive literalizing is already part of Hobbes's philosophy.

Consider that at the root of every materialist system in the *Tale*—the Hack's, the Aeolists', the Sartorists'—we can locate a literalized figure. The Aeolists' philosophy results from interpreting a Scriptural phrase ("Learning puffeth men up") as a literal reality (learning—indeed everything—is wind). Likewise, the impetus for the Hack's vapor-theory of madness results from setting the "converting imagination" to work. The Hack seizes on a figurative phrase—"there is something Individual in human Minds, that easily kindles at the accidental Approach and Collision of certain Circumstance"—and makes this trope ("the Mind ... kindles") into a literal fire, one that produces enough smoke to obscure the understanding: "[I]t is of no import, where the Fire was kindled, if the Vapor has once got up into the Brain." Section I of the *Tale*, where the Hack presents a parodic version of Epicurean/Lucretian materialist views of

though, the latter kind of converting (metaphorizing the literal) occurs in the passages of the *Tale* on religious satire—hence, the brothers discovering emblems and hieroglyphics in their father's otherwise "plain" will.

language, works similarly. There the Hack continually repeats a figure of speech—such as “words make deep impressions on us”—before senselessly literalizing it. In his account, heavy words actually fall from pulpits and stages in order strike listeners upon the head (*Tale* 60).

Though they attack materialism, all these passages borrow from Hobbes. We’ll remember that for Hobbes immaterialism results not simply from mistaken beliefs but from mistaken beliefs generated by misreading. The immaterialist reads what are for Hobbes Scriptural metaphors (“in-powred vertue”) and interprets them as literal realities. This is bad enough, but even worse is that this act of misinterpretation creates an entire system of thought—an entire way of understanding mind, reality, and matter. Something similar takes place in the case of Swift’s materialists. They claim that all reality is material in nature—worms, wind, vapor, etc.—not because they have special access to the essence of things but because they have seized on some literalized phrase and elevated it into an authoritative truth.

*

Swift’s most direct parody of Hobbes—and his most visible moment of literalizing *Leviathan*—occurs in Section II of the *Tale*. There the reader encounters the Sartorists, another materialists sect that contends that everything—including human minds and souls—is reducible to mere matter: in this case, the mere matter of clothing. According to the Hack, the Sartorists

held the Universe to be a large *Suit of Cloaths*, which *invests* every Thing: That the Earth is *invested* by the Air; the Air is *invested* by the Stars; and the Stars are *invested* by the *Primum Mobile*. Look on this Globe of Earth, you will find it to be very compleat and fashionable *Dress*. What is that which some call *Land*, but a fine Coat faced with Green? or the Sea, but a Wastcoat of Water-Tabby? ... To conclude from all, what is Man himself but a *Micro-Coat*, or rather a compleat

Suit of Clothes with all its Trimmings? As to his Body, there can be no dispute; but examine even the Acquirements of his Mind, you will find them all contribute in their Order, towards furnishing out an exact Dress: To instance no more; Is not Religion a *Cloak*, Honesty a *Pair of Shoes* ... Vanity a *Shirt*, and Conscience a *Pair of Breeches* (*Tale* 304).

The above passage mimics the opening of *Leviathan*, where Hobbes compares the human body to the state:

Nature (the Art whereby God hath made and governes the World) is by the *Art* of man, as in many other things, so in this also imitated, that it can make an Artificial Animal. For seeing life is but a motion of Limbs, the beginning whereof is in some principall part within; why may we not say, that all *Automata* (Engines that move themselves by springs and wheelles as doth a watch) have an artificiall life? For what is the *Heart*, but a *Spring*; and the *Nerves*, but so many *Strings*; and the *Joynts*, but so many *Wheelles*, giving motion to the whole Body, such as was intended by the Artificer? *Art* goes yet further, imitating that Rationall and most excellent worke of Nature, *Man*. For by *Art* is created that great Leviathan called Commonwealth, or State ... and in which the *Soveraignty* is an Artificiall *Soul*, as giving life and motion to the whole body; The *Magistrates*, and other *Officers* of Judicature and Execution, artificiall *Joynts*; *Reward* and *Punishment* ... are the *Nerves*, that do the same in the Body Naturall ... *Equity* and *Lawes*, an artificiall *Reason* and *Will*; *Concord*, *Health*; *Sedition*, *Sicknesse*; and *Civill war*, *Death* (*Lev.* 9).

Phillip Harth, who first identified this parody, rightly notes that the key difference between the two passages is that Hobbes's works by "developing an elaborate analogy of part to part and whole to whole," whereas Swift's "transforms Hobbes's analogy into a ridiculous reductive system."⁵⁰ Following Harth, I want to stress that Swift achieves this transformation by draining Hobbes's original passage of its analogical or metaphorical nature. Swift makes Hobbes's "elaborate analogy"—which compares nature, the state, and the human body without ever stressing their fundamental equivalence—into a simpler statement of identity. For the Sartorists, the universe is not *like* clothing; it *is* clothing.

In fact, there is an important element in Hobbes's analogy that Swift must suppress in order to transform *Leviathan's* variegated thought into a reductive system. Hobbes insists that his analogy is limited, contingent, and based upon a particular, empirical observation. He writes: "For seeing life is but a motion of Limbs ... why may we not say, that all *Automata* ... have an artificiall life." In other words, since we can observe the connection of life and motion in one instance (that of natural bodies), we can extrapolate that connection to another instance (those artificial bodies created by human beings: commonwealths). Because nature, bodies, and commonwealths are made by art, we can compare one kind of artifice (the divine art which created human and animal bodies) to yet another kind (the human art which makes machines and commonwealths). Moreover, because we can compare human and divine art, we can also compare the various parts of these artifices with one another: springs, joints, and wheels are like nerves, bones, and hearts, all of which in turn are like sovereigns, offices, and laws. This fine-grained consideration of difference and similarity disappears in Swift's literalist rewriting of Hobbes's passage. There is no logic at play in the Sartorists' philosophy, only another

⁵⁰ Harth, *Swift and Anglican Rationalism*, 155.

literalization: in this case, a failure to read invest in its figurative, spiritual sense—“To clothe or endue with attributes, qualities, or a character”—together with an insistence on interpreting the phrase in its proper (though in this case absurd) sense: “to clothe, robe or envelope.” Having countenanced the close connection between Hobbes’s anti-reductive materialism and his writings on metaphor, we can now understand why literalizing Hobbes’s system is so devastating. To literalize is to confuse, and by attributing such confusion to materialism Swift can make this system seem as if it lacks the resources to explain anything.

Let me end by suggesting, though, that in some ways Swift’s literalizing of *Leviathan* help us discern the importance of metaphor and analogy in that work. That is, by recognizing that Swift’s literalizing works to erase distinctions in order to elevate an absurd monism (“everything is clothing!”), we also can see that Hobbes’s metaphors work to carve out from a single substance (matter). To put this another way: from a certain perspective, we might say that, like the Sartorists, Hobbes also claims that only one thing exists: namely, matter—or, to be more specific, bodies (natural and artificial). His point, however, is not that, insofar as everything is matter, everything is the same. Instead his point is that everything is *comparable*. Natural bodies of hearts and flesh are *like* artificial bodies of springs and wheels, and both kinds of bodies are *like* commonwealths in turn. Hobbes’s materialism does not give rise to a literalist flattening of reality; rather, it necessitates a kind of metaphorical account of reality, one that can track its subtle play of similarity and difference.

Figuring Animal Spirits: Thomas Willis and the Personified Mind

“Enlightenment doctors,” writes G.S. Rousseau in a survey of seventeenth- and eighteenth-century medical discourse, “reduced human behavior to spirits, fibers, and nerves in their writings, creating a lush jungle of metaphor, which when brought under the lens of linguistic analysis proves to be a value-laden, subjective, and passionate labyrinth.”¹ Though he did not seed this jungle—for millennia physicians had used metaphor and other figures to describe the motions of invisible animal spirits that ostensibly coursed through the nerves—the seventeenth-century neurophysiologist Thomas Willis did more than most of his contemporaries to cultivate this figurative foliage and to make it thrive. In Willis’s work, the animal spirits—small bits of matter that originated in the brain and travelled throughout the body in order to actuate movement, sense, and thought—flourish with figurative energy. More specifically, in describing the actions of body and mind, Willis frequently turns to his favorite trope—personification or *prosopopoeia*—in order to enliven his animal spirits with human qualities. In his writing, the animal spirits behave like citizens and soldiers living, working, and dying in a (figurative) body politic.² These spirits possess desires, thoughts, and emotions. They fall in love, go mad, suffer from disease, enjoy recreational drugs, even dance. In short, thanks to the resources of personification, Willis’s spirits behave almost exactly like the persons they inhabit and in a certain sense create. Willis’s personifying of the brain was so prominent that in a brief

¹ G. S. Rousseau, *Nervous Acts: Essays on Literature, Culture, and Sensibility* (Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2004), 226.

² I cite and discuss the relevant passages fully in Section II & III below.

account of physicians who had advanced the cause of the animal spirits in the preceding century, George Cheyne singled out Willis for his figurative descriptions of neuroanatomy. As Cheyne notes, while some physicians used the animal spirits “to explain muscular Motion” or even applied “Geometry and Calculation” to their movements, it was “*Willis [who] gave [the animal spirits] all the Advantages of Eloquence and Metaphor.*”³

There is an irony in Cheyne’s praise since Willis himself—along with many of his friends and medical colleagues—imagined that his greatest achievement was in producing painstakingly literal descriptions of the brain. Writing almost eighty years after the physician’s death, for example, John Barrow assessed Willis’s legacy in the following terms:

Dr. Willis ... was an excellent anatomist, particularly in what relates to the brain, nerves, stomach, and intestines. ... [H]e was so exact, that he traced this medullary substance, through all its insertions; examined the progress of all the nerves to every part of the body. Hence he not only demonstrably proved the brain to be the fountain of sense and motion, but also, by the courses of the nerves, the manner how every part of the body conspires with others to procure any particular motion, was clearly explained.⁴

As Barrow notes and as I’ve mentioned before, Willis spearheaded a revolution in brain anatomy that provided the clearest and most complete picture of neurophysiology in the late seventeenth century. The fruits of his labor were recorded in his first major work, *Cerebral Anatomy*, a book that proceeds—at least in its first ten chapters—as if the reader were gazing over Willis’s

³ George Cheyne, *The English Malady, Or, a Treatise of Nervous Diseases of All Kinds, As Spleen, Vapours, Lowness of Spirits, Hypochondriacal, and Hysterical Distempers, &c.* (London: Printed for G. Strahan in Cornhill, 1733), 53 – 54.

⁴ John Barrow, *A new and universal dictionary of arts and sciences: ... With an introductory preface, ... And illustrated with a great number of copper-plates, ...* (London, 1751), 28.

shoulder as he performs an autopsy on the brain.⁵ Upon opening the cranium, Willis tells us, one can see a membrane that is “knit to the Skull in divers places” and that “strictly cleaves to the bones, so that it cannot easily be pulled away” (*Anatomy* 56); beneath that covering is the brain itself, which “shews somewhat globous or spherical” and which is composed of a “twofold substance, viz. the Cortical or rindy, which is the outmost and of an Ash-colour; and the medullary or marrowy, which lyes under it, and appears white” (*Anatomy* 60); below the central mass of the brain is the cerebellum which “is somewhat globous [and] marked with certain turnings and windings about.” And so on. The language here is dry, descriptive, and dull. It is also wholly bereft of eloquence and metaphor.

Why then does Willis—who was perfectly capable of delineating the nervous system plainly—use metaphor in his accounts of the mind? What are the advantages of metaphor and eloquence for someone like Willis? Stranger still, why does he personify the parts of the living person? We can begin to answer these questions if we consider that, in addition to being plainly literal, Willis’s descriptions of the brain in the first chapters of *Cerebral Anatomy* were intended to be demystifying. By dissecting and thereby comprehending the very organ of thought, Willis set out to overturn the Galenic and Cartesian accounts of the mind that prevailed in the seventeenth century.⁶ He showed that the ventricles (the cavities in the center of the brain) were not the seats of various mental faculties, as the broadly Galenic tradition argued, but rather a “mere vacuity.” He demonstrated that the pineal gland was not the place of the incorporeal soul, as Descartes had claimed, since animals (soulless machines according to Descartes) possessed

⁵ Before the work in brain anatomy for which he is best known, Willis published a number of texts on fevers and chemical theories. For my purposes, though, I’ll focus on a trilogy of works that deal with the brain (and soul) directly. The earliest is *Cerebral Anatomy* (1664; hereafter abbreviated as *Anatomy*), followed by *An Essay of the Pathology of the Brain and Nervous Stock* (1684; hereafter abbreviated as *Pathology*); and *Two Discourses concerning the Souls of Brutes* (1683; hereafter abbreviated as *Brutes*).

⁶ For Willis’s criticism of earlier accounts of the brain and mind, see Robert L. Martensen, *The Brain Takes Shape: An Early History* (Oxford: Oxford University Press, 2004), 130 – 140.

these glands as well. But with these mysteries swept aside, others soon emerged. The most pressing and troubling one dealt with the manner in which the brain matter Willis uncovered in his dissections produced thought and sensation. Somehow the ashy sphere Willis observed in his anatomies was the source of life, motion, and thought, though for all his dissecting skill Willis could never observe how this occurred. The matter of the brain, Willis reasoned, certainly was alive with chemical reactions—hence the animal spirits—but this only made it active not intelligent: a single particle of matter could roam throughout the body, but it would do so mechanically, not with any motive or goal. In other words, the qualities of matter—as much as Willis could discern them—were not the qualities of the mind. The former bounced about without purpose or pain; the latter thought, reasoned, and desired. And yet through some unseen process the former gave rise to the latter. What Willis had uncovered in his dissections was not the secret spring of thinking but an explanatory gap: matter made the mind, but it was unclear precisely how it did so.

In the following chapter, I'll argue that Willis used figurative language to close this gap. By granting human characteristics like will and emotion to the active but otherwise dumb matter that constituted the human brain, Willis made it possible to conceive—at least in his own writing—how the otherwise unthinking animal spirits could produce the lively effects of the conscious, reasoning mind. If, upon anatomical inspection, brain matter did not evince human qualities, then human qualities would have to be grafted directly onto the tissues of the brain through figurative operations. That Willis used figures to this end becomes evident if we consider that *Cerebral Anatomy* is ornamented with metaphor and eloquence only when it shifts from simply describing what the brain looks like to an account of how that organ works. Beginning with chapter twelve, Willis, having depicted “the Phaenomena or Appearances which

the whole frame of the Brain and its Appendix is wont to exhibit in Anatomical Inspection,” next “inquire[s] into the actions and use” of the structures he has uncovered (*Anatomy* 69). At this point in the text, the literal descriptions of the brain suddenly take on figurative vitality. We discover that the “medullary” parts of the brain—previously described simply as “marrowy” and “white”—also serve as a “Mart or Exchange” for the animal spirits, a place where they can engage in “their commerce to the necessities of life” (*Anatomy* 93). Likewise, the “cortical” part of the brain—the “outmost and Ash-colored” section—becomes the animal spirits’ “principal Shop or Workhouse,” a site where they are kept “as it were in distinct Cloisters or Cells to be drawn forth for the manifold Exercises of the animal Function” (*Anatomy* 95). As these passages demonstrate—and as I’ll explore more fully in the subsequent pages—the brain only begins to think in Willis’s writing once it has been figured.

*

In attempting to understand why a scientist like Willis would use metaphor in his writing, some scholars have pointed to the way in which figurative language—which was after all “value-laden, subjective, and passionate,” as G.S. Rousseau notes—inscribed social and political concerns onto the otherwise unmarked flesh of the body. Thanks to the work of figure, the mere matter of the body could be transformed into a site of ideological contestation and cultural reproduction. Rousseau argues, for example, that discourses concerning the nerves in the seventeenth and eighteenth centuries embodied contemporary class and gender norms: to possess a “nervous” disposition was to be endowed with all the qualities of good breeding—exquisite sensibility, unerring politeness, the seeds of sympathy and fellow-feeling; likewise, to enjoy the ostensibly “feminine” traits of nervousness—softness, delicacy, pliability—meant that masculine

subjects required a regimen that would strengthen, toughen, and stabilize their quivering bodies.⁷ John Sutton similarly contends that the frequent figuring of the animal spirits as wild, erratic, and wayward inscribed a moral imperative onto the body. Since the substance of the flesh was given to confusion and chaos, the mind must be focused, centered, and vigilant to guard against corporeal misbehavior.⁸ Allison Muri, writing about Willis in particular, found in his account of the animal spirits an unfolding allegory concerning sovereignty and subjection. Though the animal spirits usually behave as loyal soldiers in Willis's work, they can sometimes rebel and overwhelm their sovereign (the incorporeal mind buried deep within the brain).⁹ As all these accounts stress, the otherwise unencumbered substance of the body and brain could be freighted with cultural meaning.

Although I am indebted to—and draw on—all these critics, this chapter proposes a different explanation for Willis's figures. In the following pages, I will be less interested in the cultural significance of these figures and more attentive to the ways in which they allow us to catch a glimpse of the boundaries of the human mind. This aspect of Willis's work becomes clearer if we consider for a moment the oddness inherent in personifying bits of brain anatomy—or to put this another way: in anthropomorphizing the body itself. We are used to writers in the long eighteenth century personifying all manner of things: natural forces (the west wind, the seasons), abstractions and ideations (liberty, fear), mental faculties (imagination, memory).¹⁰ In seeking to account for this proliferation of figurative persons, eighteenth-century literary critics

⁷ See Rousseau, *Nervous Acts*, esp. 254 – 275.

⁸ John Sutton, *Philosophy and Memory Traces: Descartes to Connectionism* (Cambridge: Cambridge University Press, 1998), 129 – 148.

⁹ Allison Muri, *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830* (Toronto: University of Toronto Press, 2007), 124 – 125.

¹⁰ For an overview of personification during this period see Earl R. Wasserman, "The Inherent Values of Eighteenth-Century Personification," *PMLA*. 65.4 (1950): 435-463, and Steven Knapp, *Personification and the Sublime: Milton to Coleridge* (Cambridge, Mass: Harvard University Press, 1985).

explained that human beings were, as James Beattie put it, “easily reconciled to those figures of speech that ascribe sympathy, perception, and the other attributes of animal life, to things inanimate, or even to notions merely intellectual.”¹¹ Hugh Blair concurred: personification “introduces us into society with all nature, and interests us, even in inanimate objects, by forming a connexion between them and us, through that sensibility which it ascribes to them.”¹² Personification, in other words, played upon a narcissistic itch in the human mind; thanks to such figurative metamorphoses, we could gaze upon even inanimate beings and find our own best qualities—sympathy, perception, sensibility—reflected back. Hence, personification, in Joseph Priestley’s words, “converts every thing we treat of into thinking and acting beings. We see *life*, *sense*, and *intelligence*, every where.”¹³

But if personification grants inanimate beings life, sense, and intelligence, then does Willis’s personifying of the brain (and more specifically the animal spirits) imply that that organ lacks these qualities? Yes and no. On the one hand, one of Willis’s central insights was that the brain produced precisely these characteristics. As the aforementioned Barrow notes, Willis “demonstrably proved the brain to be the fountain of sense and motion.” On the other hand, Willis also showed that these qualities arose from otherwise insensible elements. Strictly speaking—which is to say, literally speaking—a single animal spirit does not think, reason, emote, or desire. In Willis’s system, an animal spirit is simply a bit of matter refined from chemicals in the blood and then left to expatiate throughout the body and brain. Willis’s writing required figuring because it revealed a truth that still troubles us: namely, that thought, consciousness, and personhood are produced by material that does not properly possess these

¹¹ James Beattie, *Of Poetry and Music in Essays* 3rd ed. 1779, 256.

¹² Hugh Blair, *Lectures on Rhetoric and Belles Lettres*, Vol. 3, (1783), 383-384.

¹³ Joseph Priestley, *A course of lectures on oratory and criticism* (London, 1777), 247.

attributes.¹⁴ Modern philosophers and cognitive scientists, armed with the insights of Darwin, models of artificial intelligence, and a willingness to challenge the uniqueness of thought in the universe, have explained this phenomenon by tracking the manner in which more complex properties can arise from simpler building blocks. Willis, bereft of these tools, dealt with this startling fact with a linguistic sleight of hand, one that granted mental qualities to entities that create—but do not partake in—the mind. The fact that Willis personified the brain meant that the very thing that made the person—the living, thinking brain—was not itself coterminous with that person.

Indeed, reading Willis with an eye towards his figures disrupts much of what we think we know about persons. Literary critics—especially those of a poststructuralist persuasion—delight in noting that personification troubles what it means to be a person. After all, if the qualities of personhood can be translated from human beings to inanimate objects and abstractions, then doesn't this imply that those qualities are essentially figurative in nature? Doesn't this imply, in other words, that persons are linguistic entities rather than natural beings?¹⁵ Willis's work

¹⁴ Daniel Dennett articulates this truth (using personification!) in the following way:

What we now know is that each of us is an assemblage of trillions of cells, of thousands of different sorts. Most of the cells that compose your body are descendants of the egg and sperm whose union started you ... and, to put it vividly and bluntly, *not a single one of the cells that composes you knows who you are, or cares*. The individual cells that compose you are alive, but we now understand life well enough to appreciate that each cell is a mindless mechanism, a largely autonomous microrobot, no more conscious than a yeast cell.

Daniel C. Dennett, *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness* (Cambridge: The MIT Press, 2005), 1 – 2

¹⁵ I have in mind the work of Paul de Man and his students. As Cynthia Chase points out in her essay on de Man and *prosopopoeia*, "Translating *prosopon* as 'face' or 'mask' [as de Man does], and not as 'person,' is to imply that a face is the condition—not the equivalent—of the existence of a person." Moreover, to think of person in this manner is to conceive of language as an *act* that can then posit the representation of personhood after the fact. As Chase puts it: "The face given by an act of language is the only face in de Man's reading; this usage bars retreat to a word for an independently existing phenomenon, the face we think we always have. Prosopopoeia, or the

would seem to confirm as much. Strip away the ornaments of rhetoric, reject the advantages of metaphor and eloquence, and in Willis's work we come face to face with a mass of brain matter that—upon anatomical observation—evinces none of the aspects of mind we have come to expect from it.

*

Before dealing with those tropes directly, though, a word on what Willis himself hoped to accomplish in his brain anatomies. On August 8, 1660 Thomas Willis became the fourth Sedleian Professor of Natural Philosophy at Christ Church College, Oxford. Willis's work in neurology resulted partly from the challenges of this position. A devout Royalist, Willis had weathered the Revolution in Oxford, first as a student studying medicine and then, as Cromwell's forces massed outside the city gates, as a soldier in the king's army.¹⁶ After Charles's execution, Willis, stripped of a soldier's weapons but newly armed with a medical degree, maintained a modest living in Oxford as a "pisse prophet." As Carl Zimmer explains: "People would come to him with the urine of their sick relatives. He would swirl it in a flask, diagnose the malady by its color, and then prescribe a remedy."¹⁷ While the Puritans were busy liberating the city churches of their religious icons and the universities of their Royalist faculty, Willis attended to his patients' urine and then—on every Thursday afternoon—attended meetings of the Oxford Experimental Philosophy Club. Helmed by many of the thinkers who would go on to form the Royal Society—Wren, Wilkins, Petty, Hooke, Boyle, and Bathurst were

giving of face, is *de-facement*, then, insofar as if face is given by an act of language it is 'only' a figure." See Cynthia Chase, "Giving a Face to a Name," *Decomposing Figures*. Cornell UP, 1985.

¹⁶ For details of Willis's life see Hansruedi Isler, *Thomas Willis, 1621-1675: Doctor and Scientist* (New York, London: Hafner, 1968); Kenneth Dewhurst, *Thomas Willis As a Physician* (Los Angeles: William Andrews Clark Memorial Library, 1964); and Carl Zimmer, *Soul Made Flesh: The Discovery of the Brain and How It Changed the World* (New York: Free Press, 2004).

¹⁷ Zimmer, *Soul Made Flesh*, 86.

all present—the Club experimented in botany, astronomy, optics, and universal language schemes. Drawing partly on the work of “radical” physicians like Paracelsus and Helmont—philosophers who argued that matter was not inert but in fact alive with chemical charges and even occult forces—Willis himself took a particular interest in chemistry.¹⁸ He sought to account for the ways in which the blood boiled and fermented, thereby producing fevers in the patients that sought him out in the Oxford market place where he and Ralph Bathurst had erected a stall to house their burgeoning medical practice. When Charles II returned to London in 1660, and the Royalists regained control of Oxford, Willis’s longstanding loyalty was rewarded with a faculty position. The previous Sedleian Chair—by all accounts a thieving Puritan functionary—was ousted and Willis installed in his place.¹⁹

I’ve already discussed the important lectures Willis delivered to his students at Oxford—and John Locke’s reaction to them—but here it is important to add a quick word about what motivated these lessons. Officially the Sedleian Professor of Natural Philosophy was tasked with regurgitating Aristotle for the benefit of Oxford undergraduates. Willis was to lecture on “Aristotle’s Physics, or the books concerning the heavens or the world ... or the books which treat of the soul, and also those on generation and corruption.”²⁰ In its broadest outlines, Willis’s lectures—read like a recalcitrant gloss on Aristotle’s *De Anima*.²¹ Like Aristotle in that work, Willis discussed organic life, nutrition, volition, the “external” senses (sight, touch, etc.), and their “internal” counterparts (memory, imagination, and judgment). Initially he was dissatisfied

¹⁸ For Willis background in chemistry see Robert G. Frank, “Thomas Willis and His Circle” in *The Languages of Psyche: Mind and Body in Enlightenment Thought : Clark Library Lectures, 1985-1986*, ed. Rousseau (Berkeley: University of California Press, 1990) and his *Harvey and the Oxford Physiologists: Scientific Ideas and Social Interaction* (Berkeley: University of California Press, 1980), esp. 165 – 169.

¹⁹ For details of these lectures see *Thomas Willis’s Oxford Lectures*, ed. Dewhurst (Oxford: Sandford Publications, 1980), 38 - 39.

²⁰ *Thomas Willis’s Oxford Lectures*, 39.

²¹ For Willis’s debts (and criticisms) of Aristotle and *De Anima*, see Frank, “Thomas Willis and His Circle,” 121.

with the material he presented to his students. Writing four years after his appointment, Willis surveyed the content of his earliest lectures with evident disdain:

For the Province, which I hold in this Academy, requiring that I should Comment on the Offices of the Senses, both external and also internal, and of the Faculties and Affections of the Soul, as also of the Organs and various provisions of all these; I had thought of some rational Arguments for the purpose, and from the appearances raised some not unlikely Hypotheses, which ... at length accrued into a certain System of Art and frame of Doctrine. But when at last the force of Invention being spent, I had handled each again, and brought them to a severer test, I seemed to myself, like a Painter, that had delineated the Head of a Man, not after the form of a Master, but at the will of a bold Fancy and Pencil; and followed not that which was most true, but what most convenient, and what was rather desired than what was known. Thinking on these things seriously with myself, I awaked at length sad, as one out of a pleasant dream; to wit, I was ashamed that I had been so easie hitherto, and that I had drawn out for my self and Auditors a certain Poetical Philosophy and Physick, neatly wrong with Novelty and Conjectures (*Anatomy* 53).

For Willis, the only way to rid himself of the “Poetical Philosophy and Physick” that had obscured his first lectures was to focus instead on careful observation and committed empiricism. He would no longer “pin [his] faith on the received Opinions of others [presumably Aristotle and the endless Scholastic commentaries on his work] nor on the suspicions and guesses of [his] own mind” (*Anatomy* 53). Instead, he would “believe Nature and ocular demonstrations” (*Anatomy*

53). Indeed, in order to understand the “Faculties and Affections of the Soul,” he would have to observe its organs directly, which for Willis meant dissecting the brain:

Therefore thenceforward I betook my self wholly to the study of Anatomy: and as I did chiefly inquire into the offices and uses of the Brain and its nervous appendix, I addicted myself to the opening of Heads especially, and of every kind and to inspect as much I was able frequently and seriously the Contents; that after the figures, sites, processes of the whole and singular parts should be considered with their other bodies, respects, and habits, some truth might at length be drawn forth concerning the exercises, defects, and irregularities of the Animal Government; and so a firm and stable Basis might be laid, on which ... a more certain Physiologie of the Brain and nervous stock, might be built (*Anatomy* 53).

It is tempting to find in Willis’s account of his early work the sort of triumphalist story about scientific progress that early natural philosophers themselves often purveyed. As scholars like Michael Hunter and Steven Shapin have noted, while members of the early Royal Society produced an astonishing array of scientific knowledge, they also generated an ideology for thinking about how to understand, disseminate, and ultimately control that knowledge. Particularly important to this ideology was the primacy of sight and observation, as Willis’s nearly Aposteliac account of his early work on neurology shows—“I once was blind to the workings of the soul but thanks to brain anatomy now I can see them.” In this light, Willis’s plain observation of the brain can be seen as a way of casting into obscurity all those failed, poetical, and metaphorical attempts to define the mind. Reading him, we might be tempted to believe that after millennia of describing the mind as a wax tablet, or a fire, or a storeroom, or a cage filled with birds, Willis has finally given us something real, literal, and true with his quilted

ball. He's given us something we can see with our own eyes and even touch with our own hands.

And yet, as I've already hinted in the above pages, this chapter will argue that the brain was at least as metaphorical as any previous model of mind. Or to be more specific: in Willis's work, the brain—that is, the bundle of flesh, blood, and nerves inside the skull—serves as a playground for a set of images and figures that would seem to bring brain anatomy closer to poetry than to science. One bit of brain anatomy in particular—the animal spirits—took on a kind of liminal existence in the seventeenth- and eighteenth-centuries: half substantial physical thing and half airy metaphor. And it's precisely this confusion between, cold, empirical, literal reality, on the one hand, and the figurative, on the other, that interests me. This chapter sets out, in short, to show that the dividing line between flesh and figure was hazier than we might at first imagine during the late seventeenth century.

*

This chapter has three sections. In the first ("The Soul of Matter") I explain how Willis fits into the thinking matter tradition. In the second section ("The Empiricism of Metaphor") I examine Willis's use of figurative language against the background of other early scientific attempts to enlist figurative language for empirical purposes. In the third section ("A Poetical Philosophy and Physick") I take a more critical look at Willis's figures in order to understand how they join the worlds of matter and mind.

I. THE SOUL OF MATTER

Willis's work in neurology points to an inescapable fact: matter can think.²² If, as *Cerebral Anatomy* explains, "all the Conceptions, Ideas, Forces, and Powers" of the mind are generated "within the Womb of the Brain," then it follows that the structures Willis and Lower exposed in their dissections of that organ—the coiled arteries, the involuted nerves, the labyrinthine cerebrum—engender thought (*Anatomy* 77). Somehow Willis's "curious quilted ball" is itself the source of mental qualities like curiosity. But in making matter think, Willis had to answer two prominent objections to his theories: the first religious in nature, the second philosophical. The first dictated that thinking matter would drive out the God-given immortal soul; the second stated that the ostensible properties of matter—in particular its seeming passivity and inertness—could not accommodate cognition. With these objections in mind, Willis developed a philosophy that, from the modern perspective, appears simultaneously regressive and progressive in nature, a system that bowed to religious orthodoxy on the matter of the soul even as it advanced a view of matter as active and alive—a view that anticipates the vitalist philosophies of the following century and that blurs the separation between lively thinking minds and passive thoughtless things.

In the following section, I survey Willis's response to these objections in order to arrive at clearer understanding of his system of thinking matter. I will show that both responses grant the animal spirits pride of place in Willis's neurology (and hence lead the way to his use of figurative language). With that said, though, I end this section by considering a seventeenth-

²² For a fuller discussion of Willis and his relation to the thinking matter tradition see John P. Wright, "Locke, Willis, and the seventeenth-century Epicurean soul" in *Atoms, pneuma, and tranquility: Epicurean and Stoic Themes in European Thought*, ed. Osler (Cambridge University Press), 239 – 258.

century criticism of Willis's thought that he never deals with directly, one that—perhaps more than any other—necessitates the need for figured animal spirits in his writing.

*

On the religious front, Willis, who was by all accounts sincere in his spiritual convictions and who dedicated his major work on the soul to the Archbishop of Canterbury, headed off the more extreme implications of the thinking matter position by cleaving to a form of dualism that split the substance of thought into two distinct entities: in human beings, the body could think—but so could the incorporeal soul obscurely ensconced somewhere within it. In fact, as Willis explained, human beings possess two souls: an immaterial and ultimately immortal one, and a lower, corporeal counterpart. “Man is made, as it were an Amphibious Animal, or of a middle Nature and Order, between Angels and Brutes, and doth Communicate with both, with these by the Corporeal Soul, from the Vital Blood, and heap of Animal Spirits, and with those by an intelligent, immaterial, and immortal Soul” (*Brutes* 41). For Willis, the incorporeal soul allowed humans to engage in higher forms of reasoning (like mathematics or art), to discourse with one another, and to freely will their actions. Following the French Epicurean Pierre Gassendi, Willis contended that the incorporeal soul is “knitted” to the body in the corpus callosum—the white mass of fibers that connected the two hemispheres of the brain and that, in Willis's system, serves as the locus for the imagination or fancy. From its vantage point in the center of the brain, the rational soul can rise above the sensible constraints of the body—“[P]residing o'er the Imagination, [the incorporeal soul] beholds all the Species deposited in it self, discerns and corrects their obliquities or hypocrises”—just as it can think on higher truths: “it Contemplates God, Angels, It self, Infinity, Eternity, and many other notions, far remote from Sense and Imagination” (*Brutes* 39).

Though it never scales these heights, the “corporeal soul”—a term Willis uses to embrace the system of nerves, animal spirits, chemical reactions, blood, and organs that governs the body’s physiological processes—can also give rise to thought. In Willis’s system, the corporeal soul controls autonomic functions like sleeping, eating, and defecating, but it is also responsible for more complicated (we might even say more “conscious”) mental faculties like sensation, imagination, memory, and even basic forms of reasoning. That this system of nerves and brain matter can think is evident in the actions of animals—“brutes” that lack an immaterial soul but that are nevertheless capable of a “certain kind of Discourse or Ratiocination” (*Brutes* 37). In the “prosecution of [a] desired thing,” for example, animals can “pick out and choose Acts, which seem to flow from Council, or a certain Deliberation” (*Brutes* 32). Willis observed that dogs could tell the difference between friendly and unfriendly human beings from a great distance; that horses could remember a lush pasture they once grazed; and that foxes could play dead in order to catch unwary chickens (*Brutes* 39, 26). All of this brute thought—a combination of sensory intelligence, honed instinct, and practiced prudence—resulted from the disposition of merely material nerves and flesh.²³

In order to answer the philosophical objection to thinking matter theories, Willis needed to think differently about the qualities of matter itself. Generally speaking, the prevailing view of matter in the seventeenth century understood corporeal substances as passive in nature.²⁴

²³ It’s helpful to compare Willis’s dualism to Descartes’s. For Descartes, the immaterial mind alone is capable of thought. While the body can feed sensory information to the mind, this activity—strictly speaking—is not thinking in Descartes’s terms. But for Willis the body and mind can both think. As John P. Wright explains (with reference to Cartesian dualism): “For Willis, the higher soul perceives the images of the lower soul and so operates on and reacts to an entity which is already thinking (in Descartes’s sense)” (253). As Wright goes on to note, the fact that two things think in Willis’s system can lead to struggle, strife, and conflict. “[Willis] clearly described the conflict as one between two perceiving beings with opposing desire” (254). In other words, Cartesian dualism insists that only one thing (the mind) can think; Willis’s dualism insists that every human being is constituted by two thinking things: body and mind.

²⁴ See especially John Yolton, *Thinking Matter*, 90 – 104.

Although bits of matter could be buffeted about by outside forces (God or perhaps the immaterial mind was often the prime mover in these accounts), matter itself would remain stationary and static if left to its own devices. Such views were adopted by mechanists like Descartes and Boyle—thinkers who wanted to grant matter the power to be moved, but who also wanted to reserve more robust activities for the incorporeal mind or God—even as they served as obstacles for those who would make matter think. As John Yolton notes, “to ascribe thought to such [passive] matter, however complex its organization might be would be to ascribe activity to that which is dead and inert.”²⁵ Willis, who was certainly aware of the passive-matter theories in his readings of the Cartesians and in his acquaintance with Boyle, rejected this view:

[W]hat is vulgarly delivered, that Matter, out of which Natural things are made, is merely passive, and cannot be moved, unless it be moved by another thing, is not true; but rather on the contrary, Atoms, which are the matter of sublunary things, are so very active and self-moving, that they never stay long, but ordinarily stray out of one subject into another; or being shut up in the same, they cut forth for themselves Pores and Passages, into which they are Expatriated (*Brutes* 33).

Inspired by his early work in fevers and fermentation, Willis attributed the activity of matter to its chemical composition. Some particles of matter were more active than others—“spirituous” particles, for instance, were especially volatile, while “saline” particles served as a base or neutralizing force—but combined in the right way these particles could cause ostensibly inert matter to burst into life.²⁶ Indeed, the same chemical process that made otherwise inactive substances like “Oyl, Rosin, Wood, and the like” suddenly “produce a shining with Heat and

²⁵ Yolton, *Thinking Matter*, 90.

²⁶ For a fuller account of Willis’s writings on the chemistry and fermentation see Frank, “Thomas Willis and His Circle,” esp. 116 – 117.

Light” also catalyzed an embryo into life: “[T]he Vital humour in an Egg, remains torpid and sluggish in the beginning, and like to unkindled matter,” Willis noted, “but as soon as it is actuated, from the Soul being raised up, presently like an inkindled fire, it excites Life with Motion and Sense” (*Brutes* 33).

The implications of Willis’s chemical theory of matter are profound. The only difference between inert and insensible matter (like wood) and the living, sensing, moving soul that springs from an “inkindled” egg is the spark of chemical combustion. “Soul,” in Willis’s work, could refer to the incorporeal entity that surveys the thoughts of the body from its seat in the imagination, or it could name the “inkindled fire” that brings life, motion, and sense to otherwise insentient substances. In the first case, “soul” is a real entity, an immortal, incorporeal mind fastened to a living, thinking animal; in the second case, “soul” is closer to a process or activity that makes the animal think and live in the first place. To have an incorporeal soul is to be blessed with a position precisely halfway up the great chain of being, a link between angels and beasts; to possess a corporeal soul is simply to be “inkindled” by the right chemical interactions. Hence, while Willis’s chemical theory grants mere matter the potential for animation and life, it also brings sensible and alive beings perilously close to inert, unthinking substances—after all, the only thing separating the two is a mere spark. Indeed, as Willis stresses, thinking beings are simply bits of insentient matter that have been made sentient through chemical reactions: “there is not much more difference between an insensible and a sensible Body, than between a thing unkindled, and a thing kindled; yet we ordinarily see, this to be made from that; why therefore in like manner, may we not judge a sensible thing, or Body to be made out of an insensible?” (*Brutes* 33).

Strictly speaking, then, Willis's corporeal soul is as much a biochemical process as it is a collection of nerves and brain tissues. Not simply the grey matter of the cerebrum or the nerves that dive deep into the body, the corporeal soul is these structures "enkindled." In fact, Willis frequently describes the brain itself as an element in a chemical apparatus: "It seems to me, that the Brain, with the Skull over it, and the appending Nerves, represent the little Head or Glass Alembick, with a Sponge laid upon it."²⁷ As the head of an "alembick"—a device used to refine heated liquids—the brain soaked up particles in the blood and then released a more refined particle into the cerebrum. This was the source of the animal spirits—the matter that made the brain think.²⁸

*

Much of Willis's system was thoroughly "modern" in certain respects. Willis's brain dissections overturned centuries of speculation about the function of neural anatomy; likewise, his theories of "enkindled" matter drew on "radical," proto-vitalist chemical theories. Nevertheless, in making animal spirits the prime movers in his neurology, Willis stood on the firm, compacted ground of millennia of medical speculation. According to this tradition, the animal spirits were as ontologically indistinct as their name suggests: that is, they were somehow both corporeal (animal) and incorporeal (spirit) in nature. For some, the animal spirits remained material entities that could nevertheless be directly influenced by the incorporeal soul due to their extremely subtle nature; for others, the spirits were themselves made of celestial stuff.²⁹ In nearly all these accounts, though, the animal spirits served as "a common tye or *medium* betwixt

²⁷ Willis, *Of Fermentation*, 12 – 13.

²⁸ For a fuller description of this process, see Frank, "Thomas Willis and His Circle," 118.

²⁹ For an overview of the animal spirits from Galen to the middle ages, see James J. Bono, "Medical Spirits and the Medieval Language of Life," *Traditio* 40, 91 – 130. For a survey that focuses more particularly on animal spirits in the early modern and enlightenment eras, see John Sutton, *Philosophy and Memory Traces*, esp. 25 – 49.

the body and the soul,” as Robert Burton put it.³⁰ They were (to borrow a phrase from John Sutton) “analogue angels”—“intermediaries ... [that] carried messages between realms otherwise irretrievably distinct,” namely, the body and mind, the material and spiritual.³¹

As I’ve sketched out above, Willis’s animal spirits were definitively material in nature. Though they possessed qualities usually reserved for already living beings—action, self-motion, and the ability to “expatiate” throughout the body—the animal spirits were still no different from the unthinking chemical compounds that Willis would have scraped from the inner glass of his alembics. Nevertheless, Willis followed his medical predecessors in granting the spirits the ability to cross barriers and borders. Some boundaries were ontological in nature: Willis’s spirits—as they had in previous medical treatises—knitted together the world of spirit and the world of matter; they could feed information to the incorporeal soul, just as that soul could (somehow) control the impetuous motions of the material spirits. Other borders were less substantively distinct: that is, the animal spirits could translate the material (constituted by motion and chemical reactions in this case) into the mental (specifically, the faculties of the soul). There is no ontological crossing in this case because, for Willis, the movement of the animal spirits *is* imagination, memory, volition, etc. For example, this is how Willis describes these faculties in one of the few passages that abstains from figurative language in doing so:

For it seems, that the Imagination is a certain undulation or wavering of the animal Spirits, begun more inwardly in the middle of the Brain, and expanded or stretched out from thence on every side towards its circumference: on the contrary, that act of the Memory consists in the regurgitation or flowing back of

³⁰ Robert Burton, *The Anatomy of Melancholy*, 148.

³¹ John Sutton, *Philosophy and Memory Traces*, 37.

the Spirits from the exterior compass of the Brain towards its middle. The Appetite is stirred up, for that the animal Spirits, being some-how moved about the middle of the Brain, tend from thence outwardly towards the nervous System (*Anatomy* 91).

Hence, imagination is a wave or undulation of animal spirits flowing outwards; memory the converse. To be clear: the animal spirits cross a divide here, one that becomes evident if we consider how such movements produce the rich interior life of a mind well-stocked with images in memory or able to expatiate and range with imagination. In other words, how is it that the motion of otherwise unthinking particles gives rise to the faculties of thought? How does the world of matter become the internal world of the mental? Willis never answers these question explicitly. Indeed, he never seriously formulates them in the first place. But for one important thinker, Willis's ingenious system of chemical spirits did not so much solve the problem of thinking matter as it did refine it.

*

More than twenty years after attending Willis's Sedleian lectures, John Locke would surpass his teacher in fame by publishing the *Essay concerning Human Understanding*. As I've mentioned in the Introduction and as I'll argue at greater length in Chapter 4, Locke's philosophy is only conceivable insofar as it rejects the sort of speculations into the relation of body and mind that grounds Willis's neurology. Locke, we'll remember, refuses to speculate into whether or not matter can think. Though it's possible that God could endow material things with thought, it's impossible for mere human beings—blessed with weak senses and ignorant of the essence of

substance—to know if this is indeed the case. As Locke puts it (in an important passage I’ve quoted before):

We have the *Ideas of Matter and Thinking*, but possibly shall never be able to know, whether any mere material Being thinks, or no; it being impossible for us, by the contemplation of our own *Ideas*, without revelation, to discover, whether Omnipotency has not given to some Systems of Matter fitly disposed, a power to perceive and think, or else joined and fixed to Matter so disposed, a thinking immaterial Substance.

Critics usually take this passage to be a firm refusal to side with either materialists or dualists on the question of body and mind (a reading I’ve articulated myself in the Introduction). And yet, as John P. Wright notes, it is also a subtle comment on Willis’s conjectures into body and soul.³² The key phrase here is “Systems of Matter fitly disposed.” Willis himself describes the corporeal soul as arising “out of matter rightly disposed.” In other words, when Locke drafted this passage—the model for all future discussions of thinking matter—he seems to have had Willis in mind (though certainly not only Willis).

And yet Locke’s subtle citation of his teacher is by no means an endorsement of the latter’s views. At best, with this passage, Locke wags his finger at the speculative nature of Willis’s system. At worst, he dismisses the entire basis of Willis’s system on logical grounds. Concerning the latter, remember that Locke entertains (and then rejects) three possibilities for thinking matter. Either every particle of matter thinks; a single particle of matter thinks (and thereby animates an unthinking mass of material); or a system of unthinking particles is

³² John P. Wright, “Locke, Willis, and the seventeenth-century Epicurean soul,” 254 – 255.

somehow arranged that, through its organization and motion, thought can result. Every position has its absurdities and dangers. The first (all matter thinks) suggests panpsychism and hence pantheism (“since there would be as many eternal thinking Beings, as there are Particles of Matter, and so an infinity of Gods” (4.10.14:626)). The second position points to an unanswered question: what makes *this* atom special while the others remain unthinking. The third position opens onto an even more profound mystery: if a system of matter produces thought, then thought is solely the result of a “juxta-position of parts” or a “new relation of Position” of unthinking things; in other words, motion alone creates thought.

I want to suggest that the third position—with all its endemic difficulties—describes Willis’s vision of the corporeal soul (though, again, not *only* Willis’s work). Indeed, as we have seen, Willis makes the movement of the animal spirits the sole determiner of some kinds of thought, namely, imagination, memory, basic reasoning, etc. The question that this model poses—and that Willis himself never answers directly—is how the mental could arise from the flux of evidently unthinking things. As Locke explains, a single particle of matter may not think, but a system of unthinking particles seems no closer to thought either. Such a system can move—that is, shift into a “new relation of Position”—but how does such movement give rise to a new quality—namely, thought. I will argue in the following pages that this is a problem that Willis could only solve with the resources of figurative language.

II. THE EMPIRICISM OF METAPHOR

In Willis's considered scientific opinion, the brain, on fire and alive with the movement of animal spirits, could think. In his own telling, Willis came to this conclusion by observing (for the first time) the heretofore hidden structures of cerebral anatomy. And yet no matter how penetrating Willis's insights, no matter how sharp Lower's knife, no matter how clear Wren's sketches, the animal spirits that made matter think—and that made Willis's system as a whole work—remained just out of sight. More troubling still, as Willis prepared his work on neurology, other naturalists began to generate experimental proof that the animal spirits did not in fact exist. Francis Glisson, for one, sought the animal spirits in the muscles. The prevailing theory of muscle contraction in the seventeenth century dictated that a muscle moved when animal spirits passed through it (or perhaps exploded within it). But when Glisson measured the volume of a contracted muscle, he found that it *decreased* (and hence was without animal spirits).³³ In spite of these difficulties, Willis persisted in his belief in these creatures. From his perspective, the greatest difficulty in dealing with these entities was not whether or not to trust in their existence but how to identify and thereby describe something that could not be seen.

In the following section, I'll argue that Willis solved this problem through the resources of figurative language. I'll begin by sketching out the limits of Willis's empirical purview by paying particular attention to his inability to see the animal spirits. I'll then survey a few works by early modern natural philosophers that argued that empirical investigations could be

³³ For a description of Glisson's experiment and for its impact on theories of the animal spirits see William T. Clower, "The Transition from Animal Spirits to Animal Electricity: A Neuroscience Paradigm Shift," *Journal of the History of the Neurosciences*, 7:3, 205; for another history of the various doubts exhibited towards the animal spirits in the long eighteenth century, see also L.S. Jacyna, "Animal Spirits and Eighteenth-Century British Medicine" in *The Comparison Between Concepts of Life-Breath in East and West*, eds. Kawakita, Sakai, Otsuka (Ishiyaku EuroAmerica, Inc., 1990), 139 – 161.

supplemented by figurative language—it's this tradition, I argue, that Willis drew on when he described the animal spirits with all the “advantages of metaphor and eloquence.”

*

Willis's inability to observe the animal spirits reveals a profound blind spot in his thinking. As William F. Bynum notes, traditionally physicians undertook anatomical dissections in order to understand physiology, a practice “based on the assumption that the more one knew of structure, the better one understood function”³⁴ Galen, for instance, famously (and cruelly) severed the vocal nerves of a pig in order to demonstrate that the larynx produced sound. In his dissection of the larynx, Galen inferred physiological function from an anatomical incision. But the gap between observation and physiological activity was trickier to span in the case of the brain. As Willis himself admitted, “it is a hard and troublesome business to inquire into the actions and use” of “the Phaenomena or Appearances which the whole frame of the Brain and its Appendix is wont to exhibit in Anatomical Inspection” (*Anatomy* 69). Willis only could guess at the “actions and use” of the recalcitrant tissues and nerves he beheld. Comparative anatomy was some help in this task, as was cerebral pathology, but ultimately the substance of thinking and activity—the animal spirits and the apparatus of biochemical processes that produced and sustained them—remained invisible.³⁵

³⁴ William F. Bynum, “The Anatomical Method, Natural Theology, and the Functions of the Brain,” *Isis*, Vol. 64, No. 4, (Dec. 1973), 446.

³⁵ For a fuller discussion of Willis's troubles in this respect, see Frank, “Thomas Willis and His Circle,” esp. 140. For example: “[T]he only experimental work on the brain that Willis and his coterie carried out was to investigate the cerebral circulation by injecting ink, and other colored materials, into the blood vessels. ... Seventeenth-century physicians ... were not surgeons; and surgeons were not scholars interested in such questions as the functions of various parts of the brain” (140). That Willis nevertheless assigned various functions to parts of the brain—in the absence of observable evidence or successful experiments—was a common criticism of his work in the seventeenth and eighteenth centuries. See, for instance, Malcom Flemyng's *An Introduction to Physiology* (1759):

In a sense, the brains that Willis and his team carefully extracted from the dark confines of the skull had become even more obscure in the cold light of an autopsy. The central claim of Willis's philosophy was that the matter of the nervous system—"enkindled" with fire and nearly bursting with the activity of the animal spirits—was active and alive. But with the sole exception of an experiment on a living dog—Lower, in another particularly cruel act, injected ink into the blood vessels of the dog in order to understand cerebral circulation—the only matter evident beneath Willis's knife was passive, inert, and dead: exactly the inactive substance that had bolstered the case of the immaterialists. Thanks to his dissections, Willis could see the organ of thought, but he could not see *how* this organ produced thought. More specifically, he could not see the substance of thought itself: the animal spirits.

Despite these obstacles and obscurities, Willis maintained that the animal spirits existed and that, with tools even subtler than the edge of Lower's sharpest knife, he could find them. In fact, the animal spirits, Willis noted, were evident so long as one knew how to read for their signs—or lack thereof. According to Willis, the virtuosi who cut into nerves and muscles to exorcise the spirits misunderstood the substance they tried to expose. As Willis explained, "the liquor flowing in the nervous stock, is very subtil and spirituous, and which, by any striving or

But what the particular uses of this or that tubercle, process, or bundle, within the encephalon, are, we know not, and, I believe, never can know. The only possible way of throwing light upon these matters is, that of observation and experiment. Experiments made on brutes can stand us in little or no stead, as they are destitute of reason and articulate speech. Even those on the live human species, could any be so impious as to attempt them, would, upon the account of the extreme difficulty in conducting them, and the tender delicacy of the parts, be so precarious, that very few, if any, certain conclusions could be drawn from them; and observations from opening dead morbid bodies, can shew but very little: nor, indeed, is such a knowledge so necessary for practice. So that what Des Cartes, Willis, and others after them, have pronounced concerning the uses and functions of the several parts of the brain, as they offer no satisfactory proof of what they advance, are to be looked upon only as idle notions and mere chimeras.

Malcolm Fleming, *An Introduction to Physiology, Being a Course of Lectures Upon the Most Important Parts of the Animal Oeconomy: in Which the Nature and Seat of Many Diseases Is Pointed Out, and Explained* (London: Printed for J. Nourse, 1759), 152.

wrinkling up of those parts [the nerves], when they are roughly handled, may easily evaporate and be blown away or dispersed unperceivably” (*Anatomy* 132). In other words, by demonstrating that the nerves were bereft of this “liquor”—the subtle medium in which the animal spirits were said to travel—these thinkers pointed paradoxically to its fleeting presence. Since it was in the nature of volatile, “spirituous” matter to dissipate, this “liquor” would naturally disappear once the nervous “stock” had been ruptured. When Willis himself examined the nerves under a microscope, he found still more traces of the animal spirits.³⁶ He discovered that nerves were not—as physicians from the Greeks to the Cartesians had claimed—hollow.³⁷ Instead, they were “furnished throughout with pores and passages” like honey comb or sugar cane. For some physicians, the fact that the nerves were not hollow was definitive proof that the animal spirits did not travel through them (and hence did not exist).³⁸ For Willis, the porous nerves were the perfect medium for the “gentle agitation” of spirits “always ready for movement.” Indeed, any evidence—positive or negative—for the animal spirits only added to their tangibility for Willis. Every time he lifted his hand or turned his head, Willis almost could *feel* the spirits coursing through his brain: “As Often as we go about voluntary motion, we seem as it were to perceive within us the Spirits residing within the fore part of the Head to be stirred up to action, or an influx” (*Anatomy* 83).

Unlike the cerebral nerves and arteries which Willis detailed, Wren drafted, and Lower held in his hands, then, the animal spirits could be known only through indirect means. In Willis’s writing, they are constituted as a series of traces that point to their ineluctable but

³⁶ For a description of Willis’s microscopic investigations into the nervous system see Wes Wallace, “The vibrating nerve impulse in Newton, Willis and Gassendi: First steps in a mechanical theory of communication,” *Brain and Cognition* 51, 2003, 66 – 94.

³⁷ See Edwin Clarke, “The Doctrine of the Hollow Nerve in the Seventeenth and Eighteenth Centuries” in *Medicine, Science, and Culture: Historical Essay in Honor of Owsei Temkin*, eds., Stevenson and Multhauf (Baltimore: The Johns Hopkins Press, 1968), 123 – 145.

³⁸ *Ibid.*, 141.

ultimately unobservable presence. In the eyes of an adept like Willis, even the otherwise dead matter extracted from the skull bristled with the luminous signs of a body enkindled with sense and thought in another life. “I shall say nothing to those, who wholly deny these Spirits,” Willis wrote, “for that the existence of which, is almost palpable, and may be proved demonstratively by the effects” (*Brutes* 23). By “effects,” Willis meant that we could witness the consequences of the spirits’ actions not only in the living, thinking, reasoning minds we see around us, but also in the more mundane (and more readily apparent) chemical reactions that surround us. After all, an enkindled brain was not unlike a chemist’s alembic, and the animal spirits were in essence the result of the same chemical process that ignited wood or rosin. For example, should we want to understand how the animal spirits “exploded” in the muscles thereby moving them, Willis explained, we ought to observe the interaction of “*Nitre* and *Sulphur*,” which “being only thoroughly heated, are exploded with a vehement Crash” (*Pathology* 2). What occurred visibly in the explosion of niter and sulfur was happening invisibly within the muscles and nerves. To understand the latter, Willis explains, we simply observe the former. Or—to put this in slightly different terms—we *analogize* a visible event with an invisible one. As Willis puts it: “it will be easie to shew the effect of this kind of notion [i.e., the explosion of the animal spirits within the body], and very many examples and Instances both concerning natural and artificial things, from the Analogie of whose motions, in an animated body, both regularly and irregularly performed, most apt reasons are to be taken” (*Pathology* 2).

*

What did early scientists do when they could not witness the phenomena they studied? Technology presented one solution: a microscope or telescope could supplement and extend the weak human senses. As we saw, Willis observed the nerves beneath a microscope and beheld

only absence (though in his case it was an absence signaling a fleeting presence). Hence, with the microscope failing him, Willis used figurative language in order to see and study the animal spirits. At first glance, figurative language might appear an odd substitute for eyesight and optic glasses. Nevertheless, a number of early modern natural philosophers saw figure as a tool that could illuminate the obscure and make evident the invisible. Indeed, it's important to note that, in turning to tropes, Willis does not turn away from a scientific tradition that made figurative language—or imaginative acts of comparison and similitude—verboten. As Brian Vickers and Richard Kroll have demonstrated, the idea that early natural philosophers in general, and Royal Society virtuosi in particular, stripped rhetorical ornament from their writing in favor of a plain-spoken literalism is largely a myth.³⁹ In a particularly pernicious version of this myth, the rejection of figure follows from the embrace of empiricism, as if observing reality goes hand in hand with speaking about it literally.⁴⁰ To be sure, Royal Society natural philosophers argued that figurative language could mislead the mind, sway the passions, and obscure otherwise plainly denominative language. But they also recognized that metaphor, analogy, and other forms of figuration could aid in empirical investigation; indeed, it could cast light on otherwise shadowy entities like the animal spirits.

Surveying the work of naturalist luminaries like Bacon and Descartes, Robert Boyle noted that both philosophers ornamented their writing with figurative language. As Boyle explained, Bacon “though not more a Florid, than a Judicious, Writer, has, much to the satisfaction of his Readers, frequently made use of Comparisons, in whose Choice, and

³⁹ Richard W. F. Kroll, *The Material Word: Literate Culture in the Restoration and Early Eighteenth Century* (Baltimore: Johns Hopkins University Press, 1991), and Brian Vickers, “The Royal Society and English Prose Style: A Reassessment” in *Rhetoric and the Pursuit of Truth: Language Change in the Seventeenth and Eighteenth Centuries* (William Andrews Clark Memorial Library, 1985), 3 – 77.

⁴⁰ This is R.F. Jones’s contention. See his “Science and English Prose Style in the Third Quarter of the Seventeenth Century,” *PMLA*, Vol. 45, No. 4 (Dec. 1930), esp. 984. For a critique of Jones’s view, see Vickers *op. cit.*

Application, he was very happy”; Descartes went further still for “he himself somewhere says, that he scarce thought, that he understood any thing in Physiques, but what he could declare by some apt Similitude; of which, in effect, he has many in his Writings.”⁴¹ Boyle followed suit. Anticipating centuries of scholarship that would fault natural philosophers for using figures even as they condemned them, Boyle explained that his own use of figurative language was intentional and calculated: “I presume, it will be taken notice of, that, in the following Treatise, as well as in divers of my other Writings, especially about Subjects that are purely, or partly, Philosophical; I make frequent use of Similitudes, or Comparisons: And therefore I think myself here obliged to acknowledge, once for all, that I did it purposely.”

According to Boyle, figures served two purposes in scientific writing. First, they could ornament an already evident truth, thereby helping readers better understand a difficult point: “Comparisons fitly chosen, and well applied, may, on many occasions, usefully serve to illustrate the Notions for whose sake they are brought, and, by placing them in a true Light, help Men to conceive them far better, than otherwise they would do.” But figurative language could also work to uncover new truths. In this case, a figure would not only illustrate a truth already apprehended; it would help us apprehend this truth in the first place:

Apposite Comparisons do not only give Light, but Strength, to the Passages they belong to, since they are not always bare Pictures and Resemblances, but a kind of Argument; being oftentimes, if I may so call them, Analogous Instances, which do declare the Nature, or Way of Operating, of the Thing they relate to, and by

⁴¹ Robert Boyle, *The Christian Virtuoso: Shewing That by Being Addicted to Experimental Philosophy, a Man Is Rather Assisted Than Indisposed to Be a Good Christian* (In the Savoy: Printed by Edw. Jones for John Taylor ... and John Wyat, 1690).

that means do in a sort prove, that, as 'tis possible, so it is not improbable, that the Thing may be such as 'tis represented.

In other words, as a “kind of Argument,” figures offered their own proof. By likening one thing to another, an “Apposite Comparison” or “Analogous Instances” made it possible to understand the “Way of Operating” of the more obscure thing. For example, we might compare something known to something unknown, and by surveying their similarities, view the unknown in the light of the known. Willis engages in precisely this kind of “apposite comparison” when he relates the visible explosion of niter and sulfur to the invisible explosions of the animal spirits happening within the body. Indeed, as Boyle makes clear, figurative language was useful particularly in reflecting upon the invisible:

[P]roper Comparisons do the Imagination almost as much Service, as Microscopes do the Eye; for, as this Instrument gives us a distinct view of divers minute Things, which our naked Eyes cannot well discern; because these Glasses represent them far more large, than by the bare Eye we judge them; so a skillfully chosen, and well-applied, Comparison much helps the Imagination, by illustrating Things scarce discernible, so as to represent them by Things much more familiar and easy to be apprehended.

In short: metaphors are like microscopes; they are a kind of technology that extends our senses and makes it possible for us to discern what would be otherwise invisible. At the limit of sensible observation, we find figurative language.

One scientific thinker who used figures to this end was the aforementioned Francis Bacon.⁴² For Bacon, carefully observing and then cataloguing the readily visible structures of nature was only the first step in a truly new science. To really understand the works of nature, one would have to peek beneath her veil. Specifically, one would have to account for the manner in which the invisible structures contained within bodies—Bacon called these structures “spirits”—created the visible effects we witness.⁴³ To be clear: Bacon’s “spirits” are not the same as Willis’s; for Bacon, “spirits” create all observable effects—not just mental qualities. Nevertheless, like Willis’s creatures, Bacon’s spirits hide just out of sight and require penetrating insights to capture. This was no easy task. In a passage that singlehandedly overturns nearly every truism about early scientific thinking, Bacon rails against the senses and implores his readers to speculate into the unknown and invisible:

But by far the greatest hindrance and aberration of the human understanding proceeds from the dullness, incompetency, and deceptions of the senses; in that things which strike the sense outweigh things which do not immediately strike it, though they be more important. Hence it is that speculation commonly ceases where sight ceases; insomuch that of things invisible there is little or no observation. Hence all the working of the spirits enclosed in tangible bodies lies hid and unobserved of men.

One means of discovering the invisible spirits, according to Bacon, is by way of experiments that serve as intermediaries between the sensible and insensible: “all the truer kind

⁴² For an important account of this aspect of Bacon’s thought see Katharine Park, “Bacon’s ‘Enchanted Glass,’” *Isis*, Vol. 75, No. 2, June 1984, 290 – 303.

⁴³ To put all of this into Baconian terminology: when we catalogue the visible world we engage in natural history; when we reason upon how these observable effects are created we partake in physics; when we then try to derive universal and generalizable laws from the previous activities we are working in metaphysics. For Bacon, science really is physics or stamp collecting.

of interpretation of nature is effected by instances and experiments fit and apposite; wherein the sense decides touching the experiment only, and the experiment touching the point in nature and the thing itself.” Another way is through the use of figurative language, or more specifically with analogy. As Bacon explains (with a note of caution): “Substitution by analogy is doubtless useful, but is less certain, and should therefore be applied with some judgment. It is employed, when things not directly perceptible are brought within reach of the senses, not by perceptible operations of the imperceptible body itself, but by observation of some cognate body which is perceptible.” In other words, we can observe an invisible entity or a “thing not directly perceptible” by comparing it to something visible or “some cognate body which is perceptible.”⁴⁴ And this is precisely what Willis undertakes when he compares the invisible animal spirits to visible chemical reactions.

But what about that word of caution? How do we apply these analogies with “some judgment”? Bacon tries to help his readers in this respect by comparing his rational and

⁴⁴ In fact, Bacon illustrates the use of analogy with an example that recalls Willis’s own. He writes:

For example, suppose we are inquiring into the mixture of spirits, which are invisible bodies. There seems to be a certain affinity between bodies and the matter that feeds or nourishes them. ... We should therefore look to the mixture of water and oil, which manifests itself to the sense, since the mixture of air and flame escapes the sense. Now oil and water, which are mingled together very imperfectly by composition or agitation, are in herbs and blood and the parts of animals very subtly and finely mingled. It is possible, therefore, that something similar may be the case with the mixture of flame and air in pneumatic bodies, which, though not readily mingling by simple commixture, yet seem to be mingled together in the spirits of plants and animals, especially as all animate spirit feeds on moist substances of both kinds, watery and fat, as its proper food.

Bacon’s example is admittedly rather obscure, but his point seems to be this: if we want to understand how “air and flame” feeds certain kinds of body, we should observe the mixture of “water and oil.” We cannot see the former; but we can perceive the latter, and so we can compare the visible to the invisible in order to understand both.

scientific analogies to those of occult philosophers and “natural magicians”—the latter imagining that the world was knit together by far-flung similitudes that have no basis in reality:

Men’s labor therefore should be turned to the investigation and observation of the resemblances and analogies of things, as well in wholes as in parts. For these it is that detect the unity of nature, and lay a foundation for the constitution of sciences. But here must be added a strict and earnest caution, that those only are to be taken for conformable and analogous instances which indicate ... physical resemblances, that is, real and substantial resemblances; resemblances grounded in nature, not accidental or merely apparent; much less superstitious or curious resemblances, such as the writers on natural magic (very frivolous persons, hardly to be named in connection with such serious matters as we are now about) are everywhere parading similitudes and sympathies of things that have no reality, which they describe and sometimes invent with great vanity and folly.

Such warnings raise as many questions as they settle. We might wonder, for example, how we can separate “resemblances grounded in nature” from those that are “accidental or merely apparent.” This distinction seems all the harder to countenance when at least one element of comparison isn’t apparent to the senses. While Bacon advised caution in matters of metaphor and analogy, the very fact that he did so signaled that such tools were given to abuse. The question that I want to pursue now is whether or not Willis heeded Bacon’s advice.

*

When Willis observed the nerves through a microscope, he saw only a honeycomb of pores embracing emptiness. When he looked again through figurative optics, he witnessed a

world teaming with the activities of the animal spirits. I mentioned above that Willis often compares the animal spirits to people (and that therefore his preferred figure is personification). While this is true, it's also worth noting that Willis, in moments of more subdued figuration, sometimes likens the animal spirits to natural phenomena. We have seen one example of this—the animal spirits behave like the combustion of niter and sulfur—but there are still others. For instance, after being formed within the “cortical” part of the brain, Willis explains, the spirits then wind their way into “folds of the medullary tract [where] they keep full as it were the fountain or spring, and there like the bubbling up of waters, are circulated within with a perpetual turning, and from thence they continually stream forth into the parts of the nervous System proper to themselves” (*Anatomy* 113). Though they are rare in Willis's writing, such comparisons, I would argue, are close to what Bacon had in mind when he extolled natural philosophers to compare only things with a “physical resemblance.” Insofar as Willis could discern the physical characteristics of the animal spirits, they were in essence forged of the same chemical substance as salt or niter.

And yet, in reading Willis's tamer analogies, we also can understand why he shied away from these mechanical or natural comparisons: they cast the animal spirits as dumb, determined, and docile—or, in other words, as mere thoughtless matter. In fact, such comparisons aggravate rather than alleviate the problem of thinking matter. It's one thing to imagine that brain matter has some special quality that can create thought; it's quite another to think the same thing of salt. With this problem in mind perhaps, Willis more frequently compares the animal spirits to the persons they create. Here, for instance, is how he explains sensation and self-motion:

The animal Spirits being disposed within the several Muscles, according to the series of Fibres, seem as it were so many distinct Troops or Companies of

Souldiers [*sic*]; all which being set as it were in a Watch-tower, are ordained, as a new impression is carried to them by the Nerves, either from the objects outwardly, or more inwardly from the Head, forthwith into various forms and peculiar orders for the performing of motion or sense of this or that kind (*Anatomy* 129).

In certain respects, soldiers serve as ideal metaphorical counterparts for the animal spirits. Just as the spirits waver between true humanity and insensible materiality, soldiers similarly are tasked with an existence that is both freely human as well as rotely mechanical. After all, even though soldiers possess all the agency and volition of a normal human being, they curb and restrain these qualities in order to blindly execute the commands of their superiors. Hence, the soldier-spirits that man the watch-towers and battlements of the body are just intelligent enough to report messages to their superior officers but not so alive as to do such things without being “ordained” to do so. These figurative soldiers, then, split the difference between the mechanical world of motion and matter and the mental world of real intelligence and emotion.

But throughout Willis’s work, dissension lurks in the ranks. Even the modicum of figurative energy that the soldiering metaphors grant the spirits soon grows unwieldy and wild. When Willis observed that the nerves which carried the animal spirits were smaller than the vessels which carried the blood, he reasoned that this must be in order to control the activities of the spirits.

[T]herefore the Vessels carrying [the animal spirits], viz. the Nerves, in respect of the Fibres receiving them, are made much lesser in proportion; lest perhaps by too great a supplement of the animal Spirits, and the too thick gathering of the fresh

ones still into the nervous parts, the Army of the Veterans, before instructed, should be confounded, and so the orders of all being disturbed, the exercises of the animal Function should be performed any how. For indeed when at any time the Spirits are made too sharp, so that being therefore struck as it were with madness, they rush upon the nervous System with tumult and impetuosity; from thence a great unquietness and continual throwing about of the Members are wont to be excited, to which sometimes madness and fury succeed (*Anatomy* 130).

Here we discover that animal spirits are not only like soldiers—they are also like different *kinds* of soldiers. Some are veterans; others are novices. When the two types mix, bodily processes are thrown into disarray. In fact, Willis claims elsewhere that veteran animal spirits admirably perform their duties, while their greener counterparts tend to “very much obstruct and hinder the acts of Animal function” (*Anatomy* 96). By granting age and experience to the spirits, then, Willis implies that these entities not only receive and execute commands but that they also retain memories and, by drawing upon them, improve their skills. In other words, Willis’s metaphors subtly push the spirits from the realm of matter and motion to that of the mental, a fact confirmed by his odd assertion that, when young and old spirits mix, they suffer from madness.

What is only hinted at in this passage—that the figured animal spirits behave more like fully-fleshed out human beings rather than dumbly mechanical matter with just a hint of intelligence—becomes more prominent elsewhere in Willis’s work. We discover the spirits are not only young and old but also lazy and dissolute (*Brutes* 49). We find out that when the spirits have been “distracted” or separated from one another, they seek out their partners again in the hopes of a “mutual embrace” and “folding of hands” (*Anatomy* 132). We learn that a “Melody introduced to the Ears” can “inchant with a gentle breath the Spirits there inhabiting” (*Anatomy*

119). With these passages in mind, what I want to suggest is that, while Willis followed Bacon's advice on figure and analogy in certain respects, he did not follow it fully. As Bacon recommended, Willis used comparison to bring to light otherwise invisible entities (the animal spirits). But in doing so Willis ignored a key provision in Bacon's writing: only compare things that are, at their core, physically alike. By likening the animal spirits—small bits of chemically charged particles—to human beings Willis strains the sense of his similitude. Human minds are made of matter; but they are not *like* matter insofar as they evince mental qualities that are distinct from material ones—a disturbing dynamic that Willis's entire figurative system attempts to conceal and circumvent.

In fact, in his discussion of the four idols that mislead the mind and prevent us from pursuing a truly new science, Bacon diagnosed precisely such attempts to deny the sometimes disturbing findings of natural philosophy. Particularly relevant in Willis's case are the *idola tribus* or Idols of the Tribe. We worship these idols when we engage in acts of anthropomorphization, when we imagine that “the sense of man is the measure of things.” As Bacon goes on to explain: “On the contrary, all perceptions as well of the sense as of the mind are according to the measure of the individual and not according to the measure of the universe [*ex analogia hominis, et non ex analogia universi*]. And the human understanding is like a false mirror, which, receiving rays irregularly, distorts and discolors the nature of things by mingling its own nature with it.” In other words, the Idols of the Tribe cause us to imagine that our human qualities “mingle” with the otherwise inhuman nature revealed by the work of science—precisely what Willis does when he describes the matter of the body as if it possessed mental characteristics. In fact, with the Idols of the Tribe, Bacon warns against the personifying that literary critics like Beattie and Kames sought to explain. For the latter, personification plays

upon an instinct in our minds that longs to see the world reflect back a human face; for the former, this instinct distorts rather than enlivens reality.

*

There was a reason Willis never could observe the animal spirits directly: they did not exist. As historians of science like William T. Clower have noted, this fact, demonstrated throughout the seventeenth and eighteenth centuries in a series of experiments and dissections, nevertheless took nearly a century to be accepted fully by the scientific community. Precisely why this was the case is something of a mystery. Clower suggests that the animal spirits' (too) gradual disappearance supports a broadly Kuhnian view of scientific "progress": from norm (the animal spirits make the body move and the mind think) to crisis (the animal spirits cannot be located through sensible or experimental means) we eventually come to revolution (in this case, animal spirit physiology is replaced with a model that makes electricity coursing through the body the key to life). According to this view, it was only around 1790 when an Italian doctor named Galvani noted that the dead tissue of a frog leapt into life if prodded with an electrical charge that the animal spirits were eclipsed entirely.

In the intervening years, the animal spirits survived mainly as rumor, speculation, and above all figures. But with no plausible alternatives for what could make the body move and the brain think, seventeenth- and eighteenth-century natural philosophers persisted in describing the animal spirits. Writing in 1730, John Cook could conceive of no other mechanism for thought: "The Brain is the third principal Part, or Bowel of the Body; the Fountain of all our Animal Spirits, without which we should be no better than Stocks; and our fine Bodies without them, however nice and wonderful its Frame may be otherwise, would be quite motionless, and

inserviceable to us.”⁴⁵ And so if the animal spirits did not exist precisely, then they would need to be invented. A physician writing about the animal spirits was more poet than natural philosopher—a fact that William Harvey underlined:

[I]t is no wonder if Spirits, whose nature is left so doubtful, do serve for a common escape to ignorance: For commonly ignorant persons when they cannot give a reason for any thing, they say presently, that it is done by Spirits, and bring in Spirits as performers in all cases; and like as bad Poets do bring in the gods upon the Scene by head and ears, to make the *Exit* and *Catatrophe* of their play.⁴⁶

⁴⁵ John Cook, *An Anatomical and Mechanical Essay on the Whole Animal Oeconomy: In One View. Wherein Is Shewn the Most Wonderfull Conduct of Nature in All the Phænomena Attending Human Bodies* (London: Printed for W. Meadows, 1730), 120.

⁴⁶ William Harvey, *The Anatomical Exercises: De Motu Cordi and De Circulatione Sanguinis in English translation*, ed. G. Keynes (New York, 1995), 155.

III. A POETICAL PHILOSOPHY AND PHYSICK

In *Reflections on Ancient and Modern Learning*, William Wotton gives Willis's work on neurology pride of place in his account of "modern" advances in anatomy. Wotton begins (typically) by denigrating ancient knowledge. In this case, he demonstrates that the ancients misunderstood the nature of the brain: "*Hippocrates* took the Brain to be a gland"; "*Plato* took it to be Marrow, such as nourishes the Bones"; "*Galen* saw a little farther, and he asserts it to be of a nervous Substance, only something softer than the Nerves in the Body."⁴⁷ Only Willis, Wotton informs his readers, was able to discern precisely why the brain is so important:

Dr. *Willis* was so very exact, that he traced this medullar Substance through all its Insertions into the Cortical, and the *Medulla Oblongata*, and examined the Rises of all the Nerves, and went along with them into every Part of the Body with wonderful Curiosity. Hereby not only the Brain was demonstrably proved to be the Fountain of Sense and Motion, but also by the Courses of the Nerves, the Manner how every Part of the Body conspires with any others to procure any one particular Motion, was clearly shewn.⁴⁸

In other words, Willis's dissections (his "examination" of the brain's substance) gave rise to his conviction the brain is the "Fountain of Sense and Motion." By merely observing the brain Willis could see that it thinks, a point that Wotton drives home when he excoriates imagined critics of the physician's work:

⁴⁷ William Wotton, *Reflections Upon Ancient and Modern Learning* (London: Printed by J. Leake for Peter Buck), 196.

⁴⁸ *Ibid.*, 197.

For no Man makes himself ridiculous if he can help it; and now, that Mankind are satisfied by ocular Demonstration that the Brain is the Original of the Nerves, and the Principle of Sense and Motion, he would be thought out of his Wits that should doubt of this Primary use of the Brain, though formerly when things had not been so experimentally proved, Men might talk in the dark, and assign such Reasons as they could think of, without the Suspicion of being ignorant or impertinent.⁴⁹

However, as I've tried to demonstrate in the previous pages, the fact that brain thinks was one truth that Willis could not witness directly. Blind to the work of the animal spirits—the engines of thought—Willis turned to figurative language in order to supplement his vision. In so doing, he opened himself to the charge that his figures obscured rather than enhanced the realities of brain and body. Indeed, it is worth noting that, in spite of Wotton's praise, many of Willis's readers were bothered by the ostensibly unempirical nature of much of Willis's work. Some of the criticisms leveled against Willis were minor and—given the unyielding nature of scientific advances—expected. The famous Dutch physician Herman Boerhaave told his readers to consult Willis's work on brain anatomy even as he advised them to supplement their readings with other, more accurate anatomists.⁵⁰ Daniel Sauvry demonstrated that there were not, as Willis had claimed, glands in the *pia mater*.⁵¹ James Keill disputed Willis's account of the speed

⁴⁹ Ibid., 199.

⁵⁰ Herman Boerhaave, *A Method of Studying Physick: Containing What a Physician Ought to Know in Relation to the Nature of Bodies, the Laws of Motion; ... Written in Latin by the Learned Hermann Boerhaave ... Translated into English by Mr. Samber* (London: Printed by H.P. for C. Rivington; B. Creak; and J. Sackfield, 1719), 207.

⁵¹ Daniel Sauvry, *A New Rational Anatomy: Containing an Explication of the Uses of the Structure of the Body of Man and Some Other Animals, According to the Rules of Mechanics. ... Made English from the Third Edition, Revis'd, Corrected, and Enlarg'd by the Author* (London: Printed for D. Midwinter, and Tho. Leigh, 1701), 170.

at which the nervous fluid travelled through the body.⁵² Other charges were more serious and aimed to discredit his work more fully. As John Purcell noted: “Ingenious *Willis* (who put us in a way of explaining Mechanically the Functions of Man’s Body, but had himself the common Fate of Inventors, not to bring his Work to Perfection) grounds a Systeme upon his own Notions; which, though plausible and witty, yet many times want Reason back’d by Experience, and Matter of Fact, to support them.”⁵³

Though they were sometimes petty, frequently unfair, and often vicious, Willis’s critics were nevertheless among his most perceptive readers. These critics portrayed Willis not as he wanted—that is, as a careful observer battling against the illusions of fancy and the dead weight of tradition—but as he feared: a thinker more interested in speculation and hypothesis than pure empiricism, a scientist who followed the dictates of his imagination rather than the order of nature, a writer who produced a “poetical philosophy and physick” instead of the “certain Physiologie” of the brain and its faculties he promised. In so doing, they exposed aspects of

⁵² James Keill, *The Anatomy of the Human Body Abridg’d: Or, a Short and Full View of All the Parts of the Body. Together with Their Several Uses, Drawn from Their Compositions and Structures* (London: Printed for John Clarke, 1723), 150.

⁵³ John Purcell, *A Treatise of Vapours: Or, Hysterick Fits. Containing an Analytical Proof of Its Causes ... Together with Its Cure at Large* (London: Printed: and sold by H. Newman, and N. Cox, 1702), 2. For a similar critique, see Benjamin Hutchinson citing the work of Willis’s friend Anthony Wood:

It will be agreed with Wood, that Willis hath founded a body of physic, chiefly on hypothesis of his own framing, but it will not be agreed that this foundation will be lasting. The truth is, nothing could be more unfortunate than this method of proceeding of Dr. Willis; who, instead of deducing real knowledge from observation and experiment, exercised himself in framing theories. Hence it is, that, while his books shew the greatest ingenuity and learning, very little knowledge is to be drawn from them, very little use to be made of them. And perhaps no writings, which are so admirably executed, and prove such uncommon talents to have been in the writer, were ever so soon laid aside and neglected, as the works of Dr. Willis.

Benjamin Hutchinson, *Biographia Medica; Or, Historical and Critical Memoirs of the Lives and Writings of the Most Eminent Medical Characters ... with a Catalogue of Their Literary Productions* (London: Printed for J. Johnson, 1799), 481.

Willis's work that are neglected in the proto-Whiggish history of Wotton and even in the more balanced assessments of modern commentators. Specifically, as we will see, Willis's critics brought to light the literary qualities of his writing—his use of metaphor, his imaginative descriptions of the animal spirits' journeys through body and brain. In their accounts, Willis's reliance on figure (particularly in describing the animal spirits) signaled a paucity of empirical proof for his theories. If Willis's neurology was not grounded in clear-eyed observation and careful experiments—if he had not developed a philosophy “back'd by Experience, and Matter of Fact” but rather a “Systeme [based] upon his own Notions” (Purcell)—then perhaps (his critics reasoned) his work sprang from the airy musings of his own imagination. If Willis had not seen the brain come to life with the motions of animal spirits, then he must have invented these creatures entirely through fancy and figure. Perhaps Willis's writing was literary largely because it was not empirical.

Thomas Morgan certainly thought so. Surveying the baroque technical discourse of Willis's philosophy—“the Explosions and Suffocations of the *animal Spirits* ... the chymical Effects, Changes, and Transmutations produced in the animal Body, by the various Mixtures, and mutual Actions and Reactions of Salts and Sulphurs in the Blood”—Morgan recommended nothing less than censorship:

This enthusiastick Cant Philosophy has furnish'd abundance of Gentlemen in the Profession of Physick, with Matter enough for Ostentation, and an inexhaustible fund of Absurdity and Nonsense, which is much admired by those who cannot judge of it. But, perhaps, it might be very well if the Parliament would take this Matter into Consideration, so far as to oblige all Physicians to talk English to their Patients, and not to amuse them with technical Words and Terms of Art, out of

the *Greek* and *Latin* Languages, which they cannot understand, and which perhaps are seldom understood by those that use them.⁵⁴

Morgan's complaint is in fact twofold. First, and most obviously, Morgan explains that Willis's terms of art—his descriptions of the spirits almost alchemical transformations—are literally just that: technical jargon meant to artfully “amuse” listeners with “ostenstantion,” “absurdity,” and “nonsense.” Willis's language, in other words, was purely aesthetic in nature: it was to be “admired” but not “understood.” But this complaint suggests a second. If Willis's words were semantically empty—a burnished surface concealing only hollowness—then terms like “animal spirit” denominated nothing within the body. For Morgan, the animal spirits were merely linguistic entities, creatures that would be eradicated not by the cessation of life or the dampening of chemical reactions but by an act of Parliament banning hard words from the English language.

The sense that Willis had invented the animal spirits in a rhetorical sleight of hand—and that he had done so to conceal a failure of empirical nerve—becomes clearer still in one of the toughest critiques of his work: Bernard Mandeville's *A Treatise of the Hypochondriack and Hysterick Diseases*. Mandeville, of course, is best known for his paean to egoism and “private vice,” *The Fable of the Bees*. But before authoring that work he served for years as a physician in London and Edinburgh. As its title suggests, *A Treatise of the Hypochondriack and Hysterick Diseases* concerns hypochondria (its male variant) and hysteria (the female counterpart), maladies that made their sufferers “peevish, fickle, censorious, and mistrustful” even as they

⁵⁴ Thomas Morgan, *The Mechanical Practice of Physick: in Which the Specifick Method Is Examin'd and Exploded*; (London: Printed for T. Woodward, 1735), xv.

manifested (perhaps phantom) aches and pains throughout the body.⁵⁵ Although Mandeville sought to diagnose properly and thereby palliate hypochondria and hysteria, his aim in the treatise is also more general and altogether more critical in nature. In fact, Mandeville's treatise hopes to identify and if possible cure the disease that afflicts the medical practice itself. This disease was evident, Mandeville thought, in the fact that so many modern physicians ignored the empirical roots of medicine: "'Tis Observation, plain Observation, without descanting or reasoning upon it, that makes the Art; and all, who neglecting this main point have strove to embellish it with the Fruits of their Brain, have but cramp't and confounded it."⁵⁶ Rather than observe the course of the diseases they ostensibly set out to cure, modern physicians indulged in scientific speculation that floated free from empirical reality. In place of accurate diagnoses and effective regimens, these doctors offered wit and rhetoric:

As the World grows wiser, Physicians of later times have found out more Compendious ways to Renown and Riches; by applying themselves particularly to Anatomy, Chymistry, &c. and by writing of, or performing something with Accuracy in any one only of the shallow auxiliary Arts, that all together compose the Theory of Physick, they know how to insinuate themselves into the Favour of the Publick; and from their giving Proofs or their understanding well one inconsiderable Branch of their Art, are stupidly believ'd to be equally skill'd in the whole. ... The witty Philosopher, who can so exactly tell you which way the World was made, that one would think he must have had a hand in it, in his Talk cures all Diseases by Hypothesis, and frightens away the Gout with a fine Simile,

⁵⁵ Bernard Mandeville, *A Treatise of the Hypochondriack and Hysterick Diseases: In Three Dialogues* (London: Printed for J. Tonson in the Strand, 1730), xii.

⁵⁶ *Ibid.*, 69 – 70.

but when he comes to practice oftener reasons a trifling Distemper into a Consumption.⁵⁷

Since Mandeville seeks to condemn a medical world fuelled by compelling but empirically empty discourse, Willis naturally becomes a prime target for his invective. Mandeville makes it clear that the sorts of conjectures into the relation of brain and thought that Willis engages in should be understood as mere fantasies: “Men must either be altogether silent about the Oeconomy of the Brain, and the Commerce between the volatile Particles that are employed in the Act of Thinking, and the rest of the Body; or giving Names to things inexpressible, utter the loose Conjectures of the Imagination.”⁵⁸ Speculating on the course of the animal spirits is no better. At one point Mandeville excoriates an unnamed physician for pretending to “trace the animal Spirits through the unknown Labyrinth of the Brain, even to an *angle of incidence*, [therefore] determin[ing] Thought it self, comprehending the very Soul in the Mechanism of the Body.”⁵⁹ Ultimately, what Mandeville demonstrates is that, if Willis’s insights into the body and brain are not borne out of observation and experience, then they must be entirely rhetorical in nature. After quoting one of Willis’s “Flights of Invention in Physick”—a moment where Willis compares the brain to an alembic that refines animal spirits—Mandeville dismisses the animal spirits as entirely figurative creatures (“But what must we say to all the Four-footed Animals, that have Hearts, Milts, and Brains, as well as we; whose Heads are elevated no higher than their Rumps”) before commenting more fully on Willis’s entire practice:

Willis was a Physician of great Note, a Man of Wit and Learning, who indulged Speculation in Physick, as far as his Imagination could carry him, and some of his

⁵⁷ Ibid., 36.

⁵⁸ Ibid., 14.

⁵⁹ Ibid., 116.

Contrivances have been thought to be very ingenious. These *Simile's* [i.e., the brain is like an alembic], I confess, are very diverting for People that have nothing else to do: In some of our Modern Hypotheses there is as much Wit to be discover'd as in a tolerable Play, and the Contrivance of them as much Labour; what Pity it is they won't cure sick People.⁶⁰

*

Mandeville's criticism may be written in the spirit of mockery but it deserves to be taken seriously nevertheless. For one thing, such criticism helps us understand that, from the perspective of certain eighteenth-century physicians, Willis's animal spirits were regarded as fantasies rather than facts. Since Willis had wrought the animal spirits from figures, a critic like Mandeville reasoned, his medical works deserved the attention of literary analysis as well as scientific probing. In this respect, Mandeville's reading alerts us to formal qualities in Willis's prose that would escape a more stringently scientific scrutiny. Particularly insightful is Mandeville's claim that the animal spirits are represented as creature who possess their own brains. The phrase signals that Willis's figurative spirits serve not only personifications but synecdoches. Indeed, it's the alliance of these two figures that really solves the problem of thinking matter for Willis. If Willis (as Locke noted) could not determine how a mass of insensible matter might add up to a living, thinking being—if ultimately he did not understand what magic made the discrete pieces of the body coalesce into the unity of the mind—then one solution to this dilemma was to grant the characteristic of the whole (the brain) to the parts (the animal spirits). According to this oddly recursive logic, the animal spirits can constitute a

⁶⁰ Ibid., 98.

thinking person because they already behave as thinking persons—an image that perhaps recalls the frontispiece of Hobbes’s *Leviathan* (a point I will return to momentarily).

In order to better understand how this figurative dynamic works, consider Willis’s account of mental derangement. I mentioned above that Willis sometimes describes the animal spirits as if they themselves are mad. In fact, Willis usually grants these more robustly human qualities to the animal spirits when he seeks to understand a global mental phenomenon like madness. For example, Willis argues that “phrensy” is a variety of madness that manifests when “people not only talk idly, but breath unequally, speak aloud, strike with their fists, fling about their hands and feet, yea and stretch forth all their members with a mighty strength, and a most strong force” (*Brutes* 182).

Therefore the formal reason of the *Phrensie* seems to consist in this, that the Animal Spirits being at first very much irritated in the whole Brain, are driven into inordinate, very confused, and also impetuous motions ... Moreover, the spirits being struck as it were with madness, tumultuate not only in the Brain, but also in the *Cerebel* [cerebellum], and every where in the nervous Stock ... [so that] the whole Soul seems to grow hot and furious in the whole body, to be mad, or rather as it were to be inflamed with a sudden burning. And truly a *Phrensie* cannot be more aptly defined, than that it is a burning or inflammation of the whole sensitive soul, or animal spirits (*Brutes* 182 – 183).

It is hard to know where the mental ends and the material begins in this passage. Here the movements of the body precisely reflect mental qualities. The frenzied suffer from impulsive convulsions as their bodies jerk and spasm. But then so do their animal spirits, which are

“indordinate,” “confused,” and “impetuous.” Indeed, Willis even redefines madness (a mental quality) as a physical event: to be mad is to be “as it were inflamed with a sudden burning”—a phrase that applies to the heat that afflicts the corporeal soul.

This mirroring of body and mind repeats throughout Willis’s work. When Willis considers why the mad are often “audacious and very confident, so that they shun almost no dangers, and attempt all the most difficult things that are,” he argues that the animal spirits evince these qualities: “because the Animal Spirits being very fierce and provoked, both fortifie the Imagination, that no object may seem greater or bigger than it is wont to be, and actuate also the *Praecordia* with vigor, so that they” (*Brutes* 205). Melancholy, a disease marked by “fear and sadness,” results when the spirits—usually “transparent, subtle, and lucid”—become “obscure, thick, and dark, so that they represent the Images of things, as it were in a shadow, or covered with darkness” (*Brutes* 189). When the “animal spirits are . . . more tender, and easily dissippable” then a person will “not able to suffer any thing very strong or vehement to be brought to the sense or the imagination, but straight they fly into confusions” (*Pathology* 6). In each of these cases, we can see how a torsion in figurative logic allows Willis to link the material and the mental. Willis grants matter the characteristics of persons and their minds in order to account for the way in which that matter makes the mind. The animal spirits reflect—and thereby give rise to—more general mental characteristics. As a physiologist, Willis seeks to understand the underlying qualities of the body that give rise to the mind, but he only can achieve this end as a writer of a kind of medical literature.

Consider an extraordinary passage where Willis explains what happens within the brain when someone falls in love without having seen the desired object in person:

It is somewhat otherways in Love excited through Opinion, because in this, the Species of the Object being represented by the Imagination, is erected as an Idol in the Brain; about this many Spirits being employed, at first they weigh the noted Beauty, and its various Ornaments, when they worship it; for whatsoever we love, we imagine it fair, profitable, pleasant, and far above what in truth it is; then by reason of these kind of feigned Attributes, we more earnestly fall in love with the thing beloved; Further, the Spirits inhabiting the Brain, invite all the rest, flowing in the whole Nervous stock, to the worship of the Idol erected by themselves: wherefore the Inhabitants of every Sensory, watching the works of the Senses, look hither (*Brutes* 50).

Once again, we can see how Willis's figures allow him to mirror mind and body. Here the animal spirits—smitten by an imagined object—behave exactly as their properly human counterparts. Somehow these spirits—literally only matter in motion—can “weigh the noted Beauty,” “worship it,” and “invite” other animal spirits to observe the idol. The result of such personifying is a description that can shift without warning between internal (the world of the spirits) and external (the human being in love) views of the mind.

*

I've argued that Willis used figurative language to give brain matter the qualities of thought. As a physiologist, Willis proved that thought could arise from otherwise thoughtless things—the tissues and chemicals of the brain. As a writer of a “poetical philosophy and physick,” Willis tried to account for this startling fact by projecting mental qualities onto the unthinking substance that produced them. Without figurative language, then, Willis's system would present a mystery rather than an enlightening explanation for the workings of the mind—a

mystery that is still with us: how does matter make mind? By way of concluding, let me stress this point by asking what Willis's thought would look like if it did not enjoy all the advantages of metaphor and eloquence. In a sense, we have encountered Willis's plainly literal writings on the brain in his dull reports on its dissection and in his accounts of the animal spirits moving in undulations or waves. But perhaps the best view on the unadorned Willis is provided by yet another of his critic: namely, Jonathan Swift.

There is no evidence that Swift read Willis.⁶¹ Nevertheless, Swift certainly knew William Wotton's aforementioned *Reflections upon Ancient and Modern Learning*, a text where he would have encountered a description of Willis's work as well as a detailed account of the latter's importance to modern anatomy. Swift seems to have been fascinated in particular by a passage in Wotton that discusses how the animal spirits rush through the nerves—a passage that he parodies in his *Mechanical Operations of the Spirit*:

For, it is the Opinion of Choice *Virtuosi*, that the Brain is only a Crowd of little Animals, but with Teeth and Claws extremely sharp, and therefore, cling together in the Contextures we behold, like the Picture of Hobbes's *Leviathan*, or like Bees in perpendicular swarm upon a Tree, or like a Carrion corrupted into Vermin, still preserving the Shape and Figure of the Mother Animal. That all Invention is formed by the Morsure of two or more of these Animals, upon certain capillary Nerves, which proceed from thence, whereof three Branches spread into the Tongue, and two into the right Hand. ... That if the Morsure be Hexagonal, it produces Poetry; the Circular gives Eloquence; If the Bite hath been Conical, the

⁶¹ See Marjorie Perlman Lorch, "Explorations of the Brain, Mind, and Medicine in the Work of Jonathan Swift" in *Brain, Mind and Medicine: Essays in Eighteenth-Century Neuroscience*, eds. Whitaker, Smith, and Finger (New York, NY: Springer, 2007), 345 - 352.

Person, whose Nerve is so affected, shall be disposed to write upon the Politicks;
and so of the rest.⁶²

Though Swift never read Willis, he manages to imitate his style with surprising accuracy. As in Willis's writings, we can recognize in this passage, for example, the alterations between dry, physiological description on the one hand—those certain capillary Nerves which spread into the Tongue—and wild metaphorical speculation on the other—the brain as a swarm of bees that is like the picture of Hobbes's leviathan that is like a carrion corrupted into vermin.

But what is really telling—as is so often the case with Swift's parodies—are the slight departures from the source text. Most importantly, we can see that, in rewriting Willis, Swift has literalized his metaphors. For Willis (and indeed for most physicians of the long eighteenth century), the animal spirits are a mobile army of metaphors, metonyms, and anthropomorphisms. For Swift, they are only animals. To be sure, in literalizing the animal spirits, Swift has not returned them to their proper referent—chemically charged matter within the brain—but he has made them as dumbly mechanical as their literally material nature suggests. Swift's spirits do not think, feel, or love—they only bite. In transforming the animal spirits, Swift means to stress the disconnect between the world of brain matter and the mental qualities the brain creates. Had Willis written this passage, he would have bridged this gap by discoursing on the inventive

⁶² Here is Wotton's original. This passage follows just after the before-cited paragraph on Willis and the brain. Strictly speaking, Wotton is writing about Malpighi and his microscopic examination of the nerves. Nevertheless, much of Wotton says here builds on Willis's work:

[T]he Brain consists of an innumerable Company of very small Glandules, which are all supplied with Blood by Capillary Arteries; and that the Animal Spirit, which is separate from the Mass of the Blood in these Glandules, is carried from them into the *Medulla Oblongata* through little Pipes, whereof one belongs to every Gland, whose other End is inserted into the *Medulla Oblongata*, and that these Numberless Pipes, which in the Brain of some Fishes look like the Teeth of a small Ivory Comb, are properly that which all Anatomists after *Piccolhomineus* have called the *Corpus callosum*, or the Medullar Part of the Brain.

Wotton, *Reflections on Ancient and Modern Learning*, 198.

spirits which create poetry or the silver-tongued spirits which generate eloquence. Swift makes it only wider by forcing his readers to countenance the fact that somehow bites of different geometric shape can produce different mental qualities.

Behind Swift's irony is a serious point: the animal spirits cannot create the mind. The brain cannot *only* be a crowd of little animals. Something else—presumably an incorporeal soul—must be responsible for poetry, eloquence, even politics. For Swift, all the matter of the mind adds up to nothing—a fact that becomes apparent if we consider his odd invocation of Hobbes in this passage. In one respect, the reference to Hobbes is unsurprising. Although Willis remained a devoutly religious dualist who certainly believed in a God-given incorporeal soul, his suggestion that matter alone could think—that it could think independently of the immaterial soul—pointed to more stringently materialist possibilities. Indeed, it's no accident that La Mettrie praised Willis's work in his *Man a Machine*.⁶³ In another respect, though, Swift's allusion to Hobbes signals another telling departure from its source material. Swift's claim that the virtuosi's image of the brain appears is "like the Picture of Hobbes's *Leviathan*" neglects a key component of that picture. The frontispiece of *Leviathan* certainly does depict a crowd of tiny heads that—seen through the right figurative optics—might appear as a swarm of bees. But above the crowd—crowning it, as it were—is the head of the sovereign: an image of unity and coherence that this representation of the brain lacks. In other words, in Swift's figuring of Willis's brain—a figuring that stresses the merely material and thoughtless nature of the spirits—the crowd of animal spirits cannot create a head.

⁶³ See J. O. La Mettrie *Man a Machine ; And, Man a Plant*, ed. and trans. Leiber (Indianapolis: Hackett Pub. Co, 1994), 37.

The Printed Mind: Thinking Matter in Scriblerian Satire

When literary critics consider consciousness in eighteenth-century writing they frequently turn to the pages of novels and to the lines of lyric poems. And rightly so, for it is in novels and the lyric that we find the conscious mind most clearly and plainly articulated. It is there that the thinking subject pores out his or her innermost thoughts and desires. In the following chapter, I will examine eighteenth-century representations of thought and consciousness in a slightly different literary form: namely, in Scriblerian satire.¹ On the face of it, such a project must appear perverse. After all, the Scriblerians are the great documenters not of thought but of the failure to think. The hack poets and modern projectors who populate works like Pope's *Dunciad* and Swift's *Tale* are not—like *Clarissa* or *Crusoe*—vessels for an abundant internal world of ideas and emotions which is then made external through narrative and print. Rather, the Scriblerians' hacks are unconscious and unthinking entities who, though they can produce grand philosophical systems and reams of poetry, behave mechanically and hence thoughtlessly. When the Scriblerians peer beneath the ostensibly human visage of their rivals

¹ Much of this chapter deals with Pope's mock-epic *The Dunciad*, but because I frequently draw on works written by Pope's friends and fellow satirists (namely, Arbuthnot and Swift), and because I am interested in a *type* of satire often produced by these writers (a kind that attacks false learning and senseless writing usually by materializing and making grotesque its authors) I use "Scriblerian" throughout this chapter as a convenient designation for this group and their texts. Strictly speaking, the "Scriblerians" (Pope, Arbuthnot, Swift but also Gay, Parnell, and Robert Harley) met periodically from roughly 1714 to 1732 or 1735 (years which marked the deaths of Gay and Arbuthnot, respectively). The Scriblerians are named after their mutual creation, the dunce scholar Martinus Scriblerus—presumptive author of *Peri Bathous*, the notes to *The Dunciad*, and his own (mock) *Memoirs*. For more background on the activities of the Scriblerus club see the Introduction to Charles Kerby-Miller's edition of *The Memoirs of ... Scriblerus* (Alexander Pope and John Arbuthnot, *Memoirs of the Extraordinary Life, Works, and Discoveries of Martinus Scriblerus*, ed. Charles Kerby-Miller [New Haven: Published for Wellesley College by Yale University Press, 1950], 1 – 56.)

they discover not the mental but the material: it turns out that the hacks are powered by gears, pipes, pulleys, by brains that do not house the incorporeal soul but instead nervous crowds of little animal spirits (as we saw in Swift's savaging).

Nevertheless, in the course of exposing the hacks' thoughtlessness, the Scriblerians also provide us with a different picture of thought itself. The Scriblerians may denigrate their hack rivals by transforming them into mere matter, but they also frequently describe them as engaged in activities (writing, speaking, reading) that evince something *like* thought. To be sure, the hacks' purely material "thinking" is less unitary, less stable, and less consistent than what we are used to. Still, I will argue in the following pages that this is a kind of thinking, albeit a thinking closer to the blind mechanism of matter than the freely willed ideations of the incorporeal soul.

To read Scriblerian satire in this way is to read these writers differently than they intended. It is to take seriously what was meant in jest. The Scriblerians described their opponents as mere matter because they wanted to puncture both the materialist systems that imagined the universe could hum along without the intervention of God or soul as well as the bad poets and writers who populated Grub Street. But in tilting at these targets, the Scriblerians thoroughly absorbed the work of their enemies. They knew the depths of the hacks' bad writing (as *Peri Bathous* demonstrates), but they also were familiar with the grand materialist systems which preceded and enraged them: Lucretius, Hobbes, Rochester, even Milton. As the Scriblerians' acid dissolves their enemies, it can also reveal the outlines of a materialist conception of the universe at least as coherent and complicated as the ones it was meant to parody and ridicule. With that in mind, in this chapter I will try to show that, if we tilt the mirror of satire at just the right angle, the Scriblerians are ideal in explaining the relationship between thought and matter in the eighteenth century.

Let me be clearer about what I mean by “thinking matter” in Scriblerian satire. The central Scriblerian joke is perhaps most evident on the Index page of the *Dunciad* (which Pope created himself). As its title indicates, this is an “Index of Things (including Authors),” a method of organizing the poem which puts mere matter and human beings on the same level.² “Addison” is only a few entries away from “Ale-house.” “Blackmore” sits precariously close to “Birch.” The index implies that, in the Scriblerian universe, there is not much difference between the human mind and the unthinking stuff that surrounds and subtends it. The leveling of mind and matter that we see in *The Dunciad*’s index points in turn to the great Scriblerian ur-text, John Dryden’s *Mac Flecknoe*, a poem which at one point attacks Thomas Shadwell by explaining that his “goodly fabric” seems

Design’d for thoughtless majesty:

Thoughtless as monarch oaks, that shade the plain,

And, spread in solemn state, supinely reign.

In this passage, Dryden appears to use “thoughtless” in its most literal (and now obsolete) sense: “incapable of thinking”; “not given to thinking; stupid, senseless; destitute of ideas.”³ Like a monarch oak—or indeed like a birch or an ale-house—Shadwell is bereft of all thought (and for precisely this reason he serves as an ideal sovereign for a long line of inert and

² This is the title of the index in the *Dunciad Variorum*, sometimes known as *The Dunciad* of 1729. See Alexander Pope, *The Dunciad: Variorum. with the Prolegomena of Scriblerus* (London: Printed [by John Wright] for A. Dod, 1729), cxix. In a later (1743) edition of the poem—sometimes known as *The Dunciad in Four Books*—the index title was changed to “Index of Persons Celebrated in this Poem” and “Index of Matters.” All further citations of *The Dunciad* are from four book 1743 version and are cited in text as *Dun.* followed by book and line numbers. For this edition of *The Dunciad* see Alexander Pope, *The Twickenham Edition of the Works of Alexander Pope*, Vol. 5: *The Dunciad*, ed. James Sutherland (New Haven: Yale University Press, 1953).

³ “thoughtless, adj.” OED Online. June 2012. Oxford University Press. 1 July 2012
<<http://www.oed.com/view/Entry/201062?redirectedFrom=thoughtless>>. Definitions 2a and 2b.

unthinking poets). “Thoughtlessness,” in this usage, is a quality usually attributed to inanimate objects or mere matter; indeed, it often becomes the defining feature of matter (alongside extension) in philosophical discourses during this period. Hence, John Norris writing in 1693: “Bodies have no Thought, therefore they produce none... For how can a Thoughtless Principle produce a Thought?”⁴ But “thoughtless” is also one of those odd words that can signify one thing and its near opposite. To be “thoughtless” in a more figurative and now more common sense is to be “unreflecting, heedless, unsuspecting, imprudent; unmindful, forgetful, careless.”⁵ In this second sense, “thoughtlessness” does not denote a lack of thought or the incapacity for thought. Instead, it signals an inattention to the thoughts that populate one’s head. Monarch oaks cannot be thoughtless in this second sense, since this quality requires a mind of which one can be “unmindful.” In other words, one must have ideas before they can be forgotten and neglected. In fact, we often say of those who suffer from this second, figurative form of thoughtlessness that their thoughts are elsewhere or that they are concentrating on the wrong kind of thoughts for the occasion at hand. This is the sad fate of Eliza Haywood’s Miss Betsy Thoughtless who is one of those people, Haywood’s novel implies, “who behold, with indignation and contempt, those errors in others, which, unhappily, they are every falling into themselves.”⁶ Had Miss Betsy thought about her own errors, rather than those of others, she would have escaped the various scandals in which she finds herself embroiled in Haywood’s novel. “Thoughtlessness,” then, can denote either the absence of ideation or an uncontrolled excess of thinking. It can signify either that one has no thoughts (the monarch oak) or that one

⁴ John Norris, *Practical discourses upon several divine subjects [vol. III]*, 1693, 31.

⁵ “thoughtless, adj.”. OED Online. June 2012. Oxford University Press. 1 July 2012
<<http://www.oed.com/view/Entry/201062?redirectedFrom=thoughtless>>. Definition 1.

⁶ Eliza F. Haywood, *The History of Miss Betsy Thoughtless: In Four Volumes* (Dublin: Printed for Oliver Nelson, 1751), 1.

has the potential for so many thoughts that it becomes possible to alight upon the wrong one (Miss Betsy).

We might expect Scriblerian satire, following Dryden, to adhere to the literal meaning of “thoughtless.” But more commonly the Scriblerians draw on the figurative sense of the term—the definition that makes thoughtlessness a kind of careless or chaotic thinking rather than simply the non-thought of the inanimate and inert. Stranger still, they do so in order to describe the “thoughts” of matter. That is, when a material thing “thinks” in Scriblerian satire it often thinks more like Miss Betsy than the monarch oak (which does not think at all). Consider the case of Cibber, the “hero” of Pope’s mock-epic *Dunciad*. Here is how Pope describes Cibber’s thought process as the latter composes a poem:

Swearing and supperless the hero [Cibber] sate,
Blasphemed his gods, the dice, and damned his fate.
Then gnawed his pen, then dashed it on the ground,
Sinking from thought to thought, a vast profound!
Plunged for his sense, but found no bottom there,
Yet wrote and floundered on, in mere despair.
Round him much embryo, much abortion lay,
Much future ode, and abdicated play;
Nonsense precipitate, like running lead,
That slipped through cracks and zigzags of the head;
All that on folly frenzy could beget,
Fruits of dull heat, and sooterkins of wit (*Dun.* I, 115 – 126).

I will return to a fuller account of this passage elsewhere in this chapter. For now, though, I want to underline a few oddities in these lines. First, note that the poem materializes Cibber's psyche. While his mind may be filled with thoughts (ln. 118), we later learn that these thoughts are physical, substantive entities. They are weight things which evince the behavior of running lead (ln. 123). Second, though Cibber is treated as matter, he nevertheless "thinks" in some sense. Cibber tries desperately to grab hold to his thoughts, to comprehend and if possible control the ideas that sink through his head. In other words, there is clearly something happening in Cibber's brain, some kind of mental activity that—although it may not amount to fully-fleshed out, fully conscious thought—is something *like* thinking. Although we might expect Cibber to be as "thoughtless" as a monarch oak—since his mind is definitely material in nature—he is instead as "thoughtless" as Miss Betsy. It is this more extreme form of thoughtlessness—a kind of material thoughtlessness that manifests itself in chaotic or uncontrolled thinking—that I will examine in the following pages.

*

This chapter has three sections. In the first ("Dr. Arbuthnot's Hard Problem") I consider a sincere poem by a Scriblerian (John Arbuthnot) in order to better understand the insincere satire produced by his colleagues. In this poem, Arbuthnot explains why the human mind (ostensibly incorporeal in his reckoning) must be different from the matter of the body. For Arbuthnot, the former can think coherently, reason about order, design, and ends, and persist over time, while the latter is subject to chaotic and impetuous changes. By inverting the normal order of Scriblerian things—by arguing that minds should *not* be treated as bodies—Arbuthnot provides an indirect but enlightening view on their satire. Extract the mind from Arbuthnot's poem and the body that remains belongs to the hacks of Scriblerian satire. In the next section

("The Engraved Mind") I survey a series of metaphors that compare the psyche to print or paper. I show that, beginning roughly in the late seventeenth century, this trope began to stress that images or ideas imprinted upon the mind could be effaced or changed without the conscious apprehension of the thinking subject. This frightening possibility means that the brain (understood here as material in nature) could possess and even change ideas without the awareness of the mind (understood as conscious). The third section ("Thinking Thoughtless Things") draws on the lessons of the previous two in order to describe the materialist universe of Scriblerian satire. This a world populated by mental artifacts (poems, prose, plays, etc.) but strangely bereft of minds. Instead of considering the purpose and design of their works, the hacks produce print unconsciously like Arbuthnot's relentless bodies. Instead of carefully reflecting upon the ideas in their minds, the hack neglects his or her own thoughts, allowing matter itself to control and reshape the psyche.

I. DR. ARBUTHNOT'S HARD PROBLEM

In 1734, one year before his death, Dr. John Arbuthnot, onetime physician to Queen Anne, fellow of the Royal Society, friend of Newton and Leibniz, and member of the scurrilous Scriblerus Club, published a short poem entitled "Know Yourself."⁷ A versification of Pascal's *Letter to M. Scaci*, the poem laments the fallen human condition, a state wherein (as Pascal's original explains) humans either imagine themselves as divine creatures free from the perturbations of corporeal nature or as wretched beings incapable of a higher existence.⁸ For Arbuthnot (and Pascal) both views are mistaken:

Around me, lo, the thinking, thoughtless Crew
(Bewildre'd each) their diff'rent Paths pursue;
Of them I ask the Way; the first replies,
Thou art a God; and sends me to the Skies.
Down on this Turf (the next) thou two-legg'd Beast,
There fix thy Lot, thy Bliss, and endless Rest:
Between those wide Extremes the length is such,
I find I know too little or too much (72 – 79).

⁷ The poem's title appears both in Greek as *Gnothi Seauton* and in English as "Know Yourself," which is sometimes rewritten as "Know Thyself" by later commentators and in other manuscripts. For the text of the poem I have relied on *The Life and Works of John Arbuthnot, M.d: Fellow of the Royal College of Physicians*, ed. George A. Aitken (Oxford: Clarendon Press, 1892), 436 – 439. For details of Arbuthnot's life I have consulted Lester M. Beattie's critical biography, *John Arbuthnot, Mathematician and Satirist* (London: Humphrey Milford / Oxford University Press, 1935).

⁸ Pascal to M. Scaci: "It appears to me that the source of the errors of these two sects [i.e., the idealists and the skeptics], is in not having known that the state of man at the present time differs from that of his creation; so that the one, remarking some traces of his first greatness and being ignorant of his corruption, has treated nature as sound and without need of redemption, which leads him to the height of pride; whilst the other, feeling the present wretchedness and being ignorant of the original dignity, treats nature as necessarily infirm and irreparable, which precipitates it into despair of arriving at real good, and thence into extreme laxity." (Blaise Pascal, *Minor Works*, translated by O. W. Wright. Vol. XLVIII, Part 2. The Harvard Classics. New York: P.F. Collier & Son, 1909–14; Bartleby.com, 2001. www.bartleby.com/48/3/. [6/4/12].)

Like Pope's earlier *Essay on Man*, Arbuthnot's poem attempts to fix a middle course between these two unfortunate extremes. For Arbuthnot, we must not think of ourselves as gods or angels any more than brute beasts or mere matter. Arbuthnot argues that in fact human beings possess a "double nature," a nature that keeps them poised between "essence divine" and "lifeless Clay" (27). Their task is to reconcile themselves to this indeterminate position:

Thou still retain'st some Sparks of heav'nly Fire,
Too faint to mount, yet restless to aspire;
Angel enough to seek thy Bliss again,
And Brute enough to make the Search in vain.
...
In vain thou hop'st for Bliss on this poor Clod,
Return, and seek thy Father, and thy God:
Yet think not to regain thy native Sky,
Born on the Wings of vain Philosophy;
Mysterious Passage! hid from human Eyes;
Soaring you'll sink, and sinking you will rise:
Let humble Thoughts thy wary Footsteps guide,
Regain by Meekness what you lost by Pride (117 – 138).

Yet before gaining this middle path, Arbuthnot considers more troubling itineraries. Particularly worrying are the questions of materialism and thinking matter that exercised Hobbes and Willis and that Locke tried to exorcise from epistemology and ethics. The old fears and questions—can matter think? what might a merely material mind think about?—return in the first lines of Arbuthnot's poem:

What am I? how produc'd? and for what End?

Whence drew I Being? to what Period tend?
Am I th' abandon'd Orphan of blind Chance;
Dropt by wild Atoms, in disorder'd Dance?
Or from an endless Chain of Causes wrought?
And of unthinking Substance, born with Thought?
By Motion which began without a Cause,
Supremely wise, without Design, or Laws (1 – 8).

These lines rehearse a series of materialist arguments that would have been familiar to Arbuthnot's readers. For example, the wild atoms in disordered dance and references to chance point us in the direction of Lucretius, whose verse and philosophy—which argued that thinking things arose from the random collision of atomic particles—was enjoying a revival in the late seventeenth and early eighteenth centuries.⁹ Likewise, the idea that the mind was “wrought” “from an endless Chain of Causes” alludes to the fears that materialism entailed necessitarianism: the belief that somehow thought came into existence not through the freely willed action of a beneficent God (a “first cause” as it were) but rather through an otherwise thoughtless process without any design or ends (and therefore “endless”).¹⁰

The question that the speakers asks in these lines—is it possible that the thinking subject is only mere matter?—is answered by the poem with an emphatic no. Arbuthnot's lines mean to suggest that something as orderly and well-designed as the human mind could not be the result of otherwise chaotic and disorderly matter. This is an answer that the poem develops more fully in later lines. However, the poem also builds something like this answer (unacknowledged,

⁹ For Lucretius' impact on eighteenth-century thought, literature, and the thinking matter debate, see Jonathan B. Kramnick, *Actions and Objects from Hobbes to Richardson* (Stanford, Calif: Stanford University Press, 2010), esp. 71 – 79.

¹⁰ For problems of cause and necessity in eighteenth-century materialism see John W. Yolton, *Thinking Matter: Materialism in Eighteenth-Century Britain* (Minneapolis: University of Minnesota Press, 1983), 127 – 140.

inserted only as a barely perceived irony) into the very question in these lines. When the speaker of “Know Yourself” wonders if something “Supremely wise” could arise from the wild dance of atoms or the unthinking clod of substance, he seems to answer his own question in the negative simply by posing it. To be able to speculate on origins, design, and ends is to evince qualities that are absent from matter (portrayed here as chaotic or purposeless). To even take on the voice of the unitary lyric subject (“What am *I*? ... Whence drew *I* being?”) is already to separate oneself from the multiplicity of “wild Atoms” and “endless Causes.”

Arbuthnot will pursue this answer as the poem develops. He does so, interestingly enough, by redoubling the worries and questions concerning matter and thought which began the poem. More specifically, he considers that bit of unthinking substance most familiar to us: the body.

Am I but what I seem, mere Flesh and Blood;
A branching Channel, with a mazy Flood?
The purple Stream that through my Vessels glides,
Dull and unconscious flows like common Tides:
The Pipes thro’ which the circling Juices stray,
Are not that thinking I, no more than They (9 – 14).

Once again Arbuthnot’s strategy is to draw a firm line between the unitary thinking subject and a multitude of thoughtless things—in this case, the blood and vessels of the body’s circulatory system. The speaker of the poem is a “thinking I,” while the circulatory system is constituted by an unthinking “they.” Arbuthnot’s point is driven home by his denominating the blood itself as “dull and unconscious.” In 1743, “unconscious” was still a new word, a term with a technical and philosophical provenance. Indeed, roughly sixty years before Arbuthnot’s poem, John

Locke first used “conscious” or “consciousness” in the sense that we now recognize: namely, as “the perception of what passes in a Man’s own mind.”¹¹ In 1714, we find that “unconscious” has crept into the language, and in none other than *Creation*, the great epic poem of perennial Scriblerian target, Richard Blackmore.¹² After describing a number of autonomic processes in the body (including the way in which the stomach and blood break down food), Blackmore explains:

Yet we these wondrous functions ne’er perceive,
Functions, by which we move, by which we live:
Unconscious we these motions never heed,
Whether they err, or by just laws proceed.¹³

Arbuthnot and Blackmore are strange allies to be sure, but both use “unconscious” with the same goal in mind. For both, the body evidently was not dead or inert like most matter. Instead, it was active and alive with its own impetuous motions. Describing these movements as “unconscious” (as out of sight and out of mind) was a way of delineating one kind of life (the unthinking life the body) from another (the thinking life of the mind).

The poem ultimately decides that the correct way to describe the relation of mind and body—and the relation of thought and matter more generally—is by making the latter a possession of the former:

¹¹ John Locke, *An Essay Concerning Human Understanding*, ed. Nidditch (Oxford: Clarendon Press, 1975), 2.1.19: 115.

¹² un'conscious, adj. and n.". OED Online. June 2012. Oxford University Press. 3 July 2012
<http://www.oed.com/view/Entry/210776?redirectedFrom=unconscious> Definition 1.

¹³ Richard Blackmore, *The Poetical Works: Of Sir R. Blackmore: Containing Creation ; a Philosophical Poem, in Seven-Books. to Which Is Prefixed the Life of the Author. Cooke's Edition. Embellished with Superb Engravings* (London: Printed for C. Cooke, No. 17, Paternoster-Row, and sold by all the Booksellers in Great-Britain and Ireland, 1797) vi. 302 – 305.

This Frame, compacted with transcendent Skill,
Of moving Joints, obedient to my Will;
Nurs'd from the fruitful Glebe, like yonder Tree,
Waxes and wastes; I call it Mine, not me:
New Matter still the mould'ring Mass sustains,
The Mansion chang'd, the Tenant still remains;
And from the fleeting Stream repair'd by Food,
Distinct, as is the Swimmer from the Flood.
What am I then? (15 – 23)

In other words, according to the speaker of the poem, I am in my body the way I am in a house; I possess and own the latter, but I *am* the former. Perhaps more importantly, I *control* my body because I possess it. Certain physiological processes may be unconscious and hence out of my control—specifically, nutrition: “the fleeting Stream repair'd by Food”—but ultimately I can command my “moving joints.” And yet the fact that the body mutates without conscious perception or control points to yet another reason matter must be divided from the mind. The body—a “moldering” mass that “waxes and wastes”—changes, but the mind persists over time. After all, how else could it reason about ends, origins, and purposes if it were shackled to the fleeting movements of matter.

*

I've begun this section with a brief glance at Arbuthnot's poem for two reasons. First, the poem serves as a reminder that the Scriblerians were familiar with the debates concerning thinking matter in the seventeenth and eighteenth centuries. Indeed, “Know Yourself” works as a nice summation of those debates and as a forceful staging of perhaps the two most prominent

arguments against the possibility of thinking matter during this period. The first argument dictates that matter follows chaotic and entirely random laws, whereas the mind seems designed for some purpose. The speaker or “thinking I” of the poem reflects on origins and ends, but matter partakes of only remorseless and mindless activities like the “disorder’d dance” of atoms or the rushing of blood “stray[ing]” through the veins. The second argument explains that matter is mutable and changeable while the mind persists over time. The body may “wax and waste” but its “tenant” remains the same. Although the poem’s answer to the question “What am I?” is fundamentally dualist, and although theology hovers over these lines, grand metaphysical claims about the substance of mind and body—the sort of speculation we might expect to find in Descartes, for example—are largely absent here. Arbuthnot says nothing about the nature of the soul (and if said soul is coextensive with the mind). In fact, the poem only extrapolates the qualities of mind (purposeful, unitary, stable) by delimiting them from the characteristics of matter (lawless, disparate, changeable). Arbuthnot’s poem explains that whatever I am—a soul, a thinking unextended substance—I am not my body.

But there is a second reason Arbuthnot’s poem should interest us. “Know Yourself” not only recapitulates (or versifies) the arguments of the thinking matter debate. In its own way, the poem also helps us understand how the Scriblerians in particular used these arguments to satirical ends. That claim may sound odd at first. Indeed, it’s worth noting that, while Arbuthnot’s argument in “Know Yourself” may be entirely characteristic of his age in some respects, it is very much *uncharacteristic* insofar as it is written by a member of the Scriblerus club. Where Arbuthnot goes to great lengths in this poem to separate mind from body, to insist that the conscious mind is different from the flux of matter within the body, the Scriblerians often suggest just the opposite. As we have seen, they portray their poetic and philosophical

rivals as *only* matter, as mere machines that endlessly produce bad verse that no one—not them or their public—actually reads. In this sense, “Know Yourself” is Scriblerian satire in reverse; it does not degrade the human mind by turning it into matter but praises it by cordoning it off from mere substance. For precisely for this reason, though, Arbuthnot’s poem brings into focus the Scriblerian project. Extract Arbuthnot’s account of the mind from his poem, thereby leaving the chaotic, changeable body, and suddenly we encounter the universe that Pope describes in a poem like *The Dunciad*. Whatever else the Scriblerian hack is—a writing machine, a human being dehumanized by the world of print culture—he or she is *not* mind but solely body.

Let me suggest, in fact, that “Know Yourself” subtly hints at the more recognizable Scriblerian form at certain key moments in the poem. Attending to these moments will demonstrate that, while “Know Yourself” articulates safe, mainstream opinions on the question of thinking matter in the eighteenth century, the poem is nevertheless not quite as sanguine as it may seem at first glance. Consider, in particular, the image of the swimmer and the flood that surfaces in the above lines: the speaker of the poem explains that he is “distinct” from the body “as is the Swimmer from the Flood.” This metaphor is supposed to parallel the image of the mansion and tenant which directly precedes it. I can differentiate my mind from my body, the poem posits, in the same way I can differentiate a tenant from a mansion. But while it is probably the case that, no matter how dilapidated the building, I can tell the difference between a mansion and its owner, it is harder to discern a swimmer from a flood. It is the nature of floods, after all, to swallow up even the strongest swimmer, and it would seem to follow in turn that—if we are to trust the logic of poem’s image—it may be harder to discern mind and body than the poem suggests. In other words, there is a hint in these lines that, just as the flood might swallow

the swimmer, the matter of the body might swallow up the conscious mind—which is precisely what happens to that most exemplary of hacks, Cibber.

Once again consider the lines describing Cibber’s act of “creation” in *The Dunciad*. Here Pope describes Cibber diving into his own mind:

Sinking from thought to thought, a vast profound!

Plunged for his sense, but found no bottom there,

Yet wrote and floundered on, in mere despair (*Dunc.* I, 118 – 120).

The joke, of course, is that this act of floundering through his own mind counts as creative self-reflection for Cibber. For all its insincerity, though, it is a disturbing image. Arbuthnot’s poem argues that the mind is coterminous with the thinking subject; we inhabit our minds so fully and so completely that we simply *are* our minds. According to Arbuthnot’s conception of the mind, we do not only *have* thoughts (the way we have or possess a body); we *are* those thoughts. Pope’s satire rewrites this comforting view of the human understanding. Cibber inhabits his mind but only as a tiny speck inhabits a vast ocean. Whereas Arbuthnot describes the mind *as* the thinking subject, Pope treats Cibber’s psyche as a place, one with indefinite boundaries and sublime depths. In fact, far from fully occupying his mind, Cibber becomes lost in his—a swimmer swallowed by the flood. Pope achieves this effect by treating Cibber’s mind as if it were matter. Not only is Cibber’s mind extended (it has breadth and depth), his thoughts have physicality and weight—so much so that gravity, rather than Cibber himself, determines the course of his thinking: “Nonsense precipitate, like running Lead, [slips] thro’ Cracks and Zig-Zags of the Head” (*Dun.* I, 123 – 124). To be sure, materializing the mind and its thoughts does not entail that Cibber has no mind or no thoughts. A mind of matter still thinks, though it thinks

differently than the way Arbuthnot imagines body-less thought works. Cibber's head is not the site of controlled, solid, unitary thinking. Rather, it serves as a conduit for thoughts that Cibber tries but fails to grasp, a failure that leaves him lost in his own psyche. In this respect, thought is not an activity that defines the subject of thinking matter, but something that defies him.

In many ways, the Cibber passage anticipates (or perhaps reworks since it is unclear precisely when Arbuthnot wrote his poem) "Know Yourself." However, instead of differentiating the mind from matter, Pope describes Cibber's mind *as* matter. That is, the two qualities that Arbuthnot attributes to matter in order to make it distinct from mind—its purposeless movement; its tendency to mutate and change—become the defining features of Cibber's thought. First, note that Cibber is a creature of chance and contingency: "Swearing and supperless the hero [Cibber] sate, / Blasphemed his gods, the dice, and damned his fate" (*Dun.* I, 115 – 116). In other words, Cibber's gods are the dice, not some providential lawgiver. Pope implies that Cibber composes his poem not through a careful consideration of means and ends but through random tosses of a die. Furthermore, Cibber's mind itself is made of the same moldering (and chaotic) matter that Arbuthnot details in "Know Yourself." Just as in that poem blood rushes unconsciously through the body, here ideas—or to be more specific nonsense—sinks through Cibber's head like lead. This connection is made even more prominent later in the *Dunciad*, when Cibber's poetic "father," Settle, compares his son's thoughtless creativity to the purple stream that glides through the body's veins:

As man's Maeanders to the vital spring
Roll all their tides, then back their circles bring;
Or whirligigs, twirl'd round by skilful swain,
Suck the thread in, then yield it out again:

All nonsense thus, of old or modern date,
Shall in thee centre, from thee circulate (*Dun.* III.55 – 60).

Insofar as he becomes indistinguishable from his circulatory system, Cibber is not thinking here, since—according to Arbuthnot’s strict conception of conscious thought—the blood that flows through the body’s veins is “unconscious.” But though he may be strictly “unconscious,” Pope makes it clear that Cibber continues to produce nonsense. As John Sitter notes, such “images of circular motion ... become an important means of resolving a conceptual paradox—namely, that the dunces exhibit a nonproductive energy (one which does not ‘go anywhere’) and yet are part of an energy which progresses steadily like the ‘nutation’ [nodding, sleepiness] at the close of Book II [cf. *Dun.* II, 409 – 410].”¹⁴ Sitter is exactly right to link “circular motion” to the hacks’ “nonproductive energy” (he is also right to link it to their strangely steady progress, as I’ll discuss in Section III). What I want to stress here, though, is that the reason these things are linked is because the body produces both: that is, it is the source of circular motion (the meandering of blood through the veins) and the source of non-productive energy (Arbuthnot’s portrayal of the moving, mutating body). The hack, in other words, is mere matter, but this is a matter that can change, mutate, and take on different forms—all without any conscious purpose or intent.

¹⁴ John E. Sitter, *The Poetry of Pope's Dunciad* (Minneapolis: University of Minnesota Press, 1971), 38.

II. THE ENGRAVED MIND

How then can we better understand the thoughts—if we can even call them that—that pass through the hack’s head? If someone like Cibber is only matter, then is he really thinking? How is such “thinking” different from normal thought? In order to answer these questions I now want to turn to a slightly different subject, though this subject will ultimately return us to the thinking matter question—and even give us a new view on that question. In the following section, I will consider a key metaphor of mind in the long eighteenth century: namely, the metaphor that compares the psyche to a printed page or book. As I will show, thinking of the brain as if it were a book or printed surface was one way the eighteenth century thought through the problems of thinking matter.

Christopher Fanning, in a study of the Scriblerians’ relationship to Menippean satire and textuality, has come closest to articulating the analogue between thinking matter and the matter of print that I’m pursuing here. As Fanning explains, Menippean satire and the Scriblerian writing it inspired “has always had a self-reflexive interest in its own textuality and in the materiality of language, conceived in terms of a mind-body contradiction.”¹⁵ In this writing, “textual presence comes to represent the paradoxical condition of thought in language and language in printed form, [making both] a means of addressing the fundamental problem of embodiment.”¹⁶ In the following pages, I want to further expand on Fanning’s suggestion by thinking about the parallels between the embodiment of thought in the brain and the embodiment of thought on the page.

*

¹⁵ Christopher Fanning, “Small Particles of Eloquence: Sterne and the Scriblerian Text.” *Modern Philology*. 100.3 (2003): 363.

¹⁶ *Ibid.*, 363.

Let me first note that comparing the mind to some kind of blank surface that can be engraved, stamped, printed, or written upon is a common and even ancient image.¹⁷ To be sure, we often associate this image with eighteenth-century writings on the mind in general, and with Locke's polemic against innate ideas (hence the famous blank slate or *tabula rasa*) in particular. Nevertheless, the two most prominent uses of this image prior to this period—a mention in Plato and another in Scripture—would have been familiar already to the many readers who first encountered Locke's writings in the late seventeenth century. For example, here is how Socrates accounts for the interplay of wisdom and memory in the *Theaetetus*:

When the wax in the soul of a man is deep and abundant and smooth and properly kneaded, the images that come through the perceptions are imprinted upon this heart of the soul ... when this is the case, and in such men, the imprints, being clear and of sufficient depth, are also lasting. And men of this kind are in the first place quick to learn, and secondly they have retentive memories, and moreover they do not interchange the imprints of their perceptions, but they have true opinions. For the imprints are clear and have plenty of room, so that such men

¹⁷ Writing this section—and making many of the claims here—would not have been possible without the immense resource of Brad Pasanek's "The Mind is a Metaphor" database (<http://metaphors.lib.virginia.edu/>). As of August 2011, Pasanek's database has collected and categorized 9,249 metaphors of mind from antiquity to the nineteenth century (with a particular emphasis on those from the long eighteenth century). The database breaks down these metaphors by genre (i.e., whether they appear in works of poetry, prose, drama, etc.), gender of author, nationality of author, political allegiance of author, religion of author, and, most importantly, category of metaphor (e.g., metaphors comparing the mind to governments, bodies, minerals, animals, etc.). In writing this section, I used the database to focus in particular on the metaphors comparing the mind to various forms of writing. I surveyed the 686 metaphors of mind collected under the writing category in the database. Additionally, I searched the entire database using terms like "blank," "blot," "clear," "paper," "ink," "impress," "wax," "pen," etc. Many of the metaphors I cite below were found thanks to the database. Likewise, many of the more "sweeping" or general claims about changes in metaphors of mind from antiquity to the eighteenth century were substantiated by collecting and collating data from "The Mind is a Metaphor" archive.

quickly assign them to their several molds, which are called realities; and these men, then, are called wise.¹⁸

St. Paul similarly compares the mind (or “heart,” metaphorically speaking) to a writing surface in his second letter to the Corinthians:

1: Do we begin again to commend ourselves? or need we, as some others, epistles of commendation to you, or letters of commendation from you?

2: Ye are our epistle written in our hearts, known and read of all men:

3: Forasmuch as ye are manifestly declared to be the epistle of Christ ministered by us, written not with ink, but with the Spirit of the living God; not in tables of stone, but in fleshy tables of the heart.

For our purposes, what is especially important about these ancient printed-mind metaphors is that they stress two qualities: stability and legibility. We can recognize stability in the Plato quotation. Note that Socrates explains that the sense impressions stamped on the mind are “clear and of sufficient depth” so that they last a long time. Furthermore, these impressions are also “clear and have plenty of room” so that there is no danger in confusing one idea with another. Although Socrates goes on to warn his interlocutor that some minds can be too hard or too soft for ideal impressing, his point remains: in a normal, healthy mind, sensible ideas are imprinted directly onto the wax of memory, where they remain distinct, definite, and durable.¹⁹ Likewise, Paul’s letter stresses the legibility of the mind’s printed ideas. The holy spirit has “written in our hearts”—and not on stone or with ink—so that all men can clearly read the engraved message. Christian thinkers, writing in Paul’s wake, would allude continually to the

¹⁸Plato, *Plato in Twelve Volumes*, Vol. 12, trans. Harold N. Fowler (Cambridge, MA, Harvard University Press; London, William Heinemann Ltd., 1921), 194c – 194d.

¹⁹Ibid., 194d.

image of God inscribing instructions directly onto the “fleshy tables of the heart.” They did so in order to underline the self-evidence and readily apparent nature of some divinely imparted message. Augustine, for example, brings together Platonic stability and Pauline legibility in the same sentence: “Theft is punished by thy law, O Lord, and the law written in the hearts of men, which iniquity itself effaces not.”²⁰

And yet by the time we get to the seventeenth- and eighteenth-century version of the printed mind, we find that these two qualities—stability and legibility—have disappeared. Instead, during this period, the mind is described as a printed surface in order to stress its mutable and obscure nature. Writing in 1710, Delariver Manley draws on the printed-mind metaphor as a means of explaining the diminished mental powers of one of her characters. Although Agnes (the character in question) lacks “any Defect through her whole Limbs or Person,” her “too large a Head [offers] no Indication of great Understanding.”²¹ Indeed, “her *Mind*, 'twas all a *Blot*, nor had it ever been otherways; she had no *Notion* of Things, no *Discourse*, no *Memory*.”²² Here the distinct characters that were once imprinted upon the ancient mind—characters that indicate quick recall and prudent wisdom—become a “blot” of mental obscurity. Following the logic of the metaphor, we can see that Agnes lacks mental qualities like memory and discourse not because her mind is empty but because it is too full—the things imprinted there have blended together into a blank mark.

As Agnes’s troubles hint, the images and ideas engraved upon the eighteenth-century mind can mislead even as they retain what otherwise would be lost to oblivion. For example,

²⁰ Augustine, *Confessions*, trans. E.B. Pusey (Simon & Brown, 2012), 26.

²¹ Delariver Manley, *Memoirs of Europe, Towards the Close of the Eighth Century. Written by Eginardus, Secretary and Favourite to Charlemagne: And done into English by the translator of the New Atalantis* (London: Printed for John Morphew, 1710), 44.

²² *Ibid.*, 44.

writing ten years after Manley, Eliza Haywood explains her heroine's complicated reaction to another character in the following manner: "In spite of the real Coldness with which she had been treated by Emilius, and the monstrous Ingratitude and Baseness she had been made to believe him guilty of, her Soul still confess'd the Graces of his Person; his Image was too deeply impress'd in her Mind, ever to banish it thence, tho' effac'd and blotted by the Memory of his Crimes."²³ Haywood's metaphor tends toward paradox: Emilius' image is so "deeply impress'd" upon the mind that it will never be eradicated; nevertheless, another memory (that of Emilius' crimes) has "effac'd and blotted" his image. The implication is that, while the mind retains memories of Emilius, these memories can be over-written and therefore differently remembered. In Haywood's writing, inscription does not imply solidity and endurance (as it does in Plato's work). Instead, the writing imprinted upon the mind is a first draft, one subject to further revision and further obliteration.

Such images also suggest that the printed mind can be curiously illegible—even to the mind's eye. Haywood's writing implies both that her heroine cannot forget Emilius (since his image "was too deeply impress'd in her Mind") and that she cannot remember him (since said impression has been "effac'd" by another memory). It would appear, then, that an image or idea can be inscribed upon the mind but—either through negligence or re-inscription—remain overlooked, unseen, and disregarded. Pope considers this possibility in the preface to his translation of the *Odyssey*: "[Ulysses] saw that all the sparks of virtue and humanity were not extinguished in *Amphinomus*; he therefore warns him with great solemnity to forsake the Suitors; he imprints conviction upon his mind, tho' ineffectually, and shews by it that when he falls by [his] the hand ... in the succeeding parts of the *Odyssey*, his death is not a revenge but a

²³ Eliza Haywood, *The Rash Resolve in Secret Histories, Novels, and Poems. In Four Volumes...* (London: Printed for Dan Browne, 1725), 93 – 94.

punishment.”²⁴ In this case, Amphinomus has had a lesson imprinted upon his mind by Ulysses. But for whatever reason—perhaps the impression was not forceful enough and Amphinomus did not recognize the lesson; perhaps Amphinomus recognizes the impressed lesson but has chosen to ignore it—the imprint proves to be “ineffectual,” and Amphinomus suffers mortal punishment as a result.

To we post-Fruedians, the idea that the mind contains hidden depths and still undiscovered thoughts is a commonplace, a notion barely worth worrying over. To thinkers in the long eighteenth century, the sense that the inscribed mind might conceal rather than make evident the figures imprinted upon it was troubling. James Beattie, writing in 1783, recommends the utmost vigilance in matters of memory, largely because memory depends on imprinting knowledge on the surface of the mind:

Traders often revise their books; to see whether every thing be neat, and accurate, and in its proper place. Students, in like manner, should often revise their knowledge, or at least the more useful branches of it; renew those impressions on the Memory, which had begun to decay through length of time; and be particularly careful to retain the plan, or general arrangement, of every part of erudition.²⁵

For Beattie, writing towards the end of the long eighteenth century, the printed-mind metaphor implied that the mind would need to be re-printed at some future point. Or, in other words, the printed-mind metaphor implied that the psyche was a thing subject to contingency, decay, and

²⁴ Alexander Pope, *The Odyssey of Homer. Translated from the Greek* (Printed W. Broome and E. Fenton), 1725 – 6, Notes, Book 18.

²⁵ James Beattie, *Dissertations Moral and Critical* (London: Printed for Strahan, Cadell, and Creech, 1783). Facsimile-Reprint: Friedrich Frommann Verlag, Stuttgart-Bad Cannstatt, 1970, 44.

dissolution. Beattie worries not only that “impressions” can fade away but also that the “plan, or general arrangement” of all knowledge will be wiped clean from the mind. By the end of the eighteenth century, to print something upon the mind was to inscribe something that would soon disappear.

*

As the above passages suggest, by the late seventeenth century, we are far from the clear, deep, distinct, and legible ideas of Plato and Paul. We now have a new image of the psyche, one that has transformed the ancient printed mind trope by making it smudged and unreadable. Precisely why this ancient image changed during this period is hard to say precisely, but I would argue for at least one important motivation for this metamorphosis. In the seventeenth and eighteenth centuries, the mind-as-printed surface metaphor that I have been tracing here is not *simply* a metaphor. Thanks in large part to new ideas about neurophysiology, this metaphor at times shades into literal and physical reality. So, for example, when a thinker like Thomas Willis—or for that matter Arbuthnot or Swift—talks about the animal spirits printing ideas onto the brain, he means it literally. Just as ink makes a mark on a white page, the animal spirits were supposed to make a mark on brain matter. The printing materials might be different—ink in one instance, a kind of chemical reaction in the other—but the process of printing or inscription was the same.²⁶ And it follows from this that the mind, like any other piece of paper or tablet, is a

²⁶ A point that Richard Russel and John Martyn make explicit in their *Grub-Street Journal*:

The spirit of the brain, distilled by the heat of the imagination, like some chemical preparations, when exposed to the air, is apt to smoke, to take fire, to crack, and bounce, to the no small disturbance of the neighbourhood. Nay, the very insipid *phlegm*, and even the *caput mortuum* of the brain, after this chemical operation, being mixed with ink, and spread upon paper, have the same combustible, noisy qualities, with the spirits themselves. But, to thy immortal honour be it spoken it is in thy power to suppress this noise, to extinguish this flame, and to dispell this smoak, so as they shall give no more offence to the eyes, ears, and noses of Christian people.

physical, material substance. In other words, during this period, the mind has become the brain; it has become matter—and matter, as Arbuthnot reminds us, is seen as dangerously chaotic and changeable in the long eighteenth century. No wonder, then, that the printed mind is continually smudged and over-written.

Consider, for example, René Descartes's early work on physiology, his *Treatise on Man*, a work which imagines the body as a purely material entity, a "statue" or "earthen machine" that works like "clocks, artificial fountains, mills, and similar machines" and that interacts with an incorporeal soul somehow coextensive with its mechanisms.²⁷ Like Hobbes or Willis, Descartes believes that ideas are physical entities lodged within the brain.²⁸ Specifically, Descartes hypothesizes that the figures received by our senses are imprinted on the surface of the pineal gland (or "Gland *H*" as he called it). These impressions are created by the animal spirits—those hard to define and mainly hypothetical entities—as they leave the pineal gland and rush into the surrounding brain tissue. As the animal spirits penetrate the flesh around the gland, they etch traces into the brain, at first with difficulty but eventually with greater ease as the spirits become accommodated to certain pathways. These carved patterns then become memories (or *plis memoires* to use Descartes's term), petrified traces of the animal spirits' otherwise fleeting motions. With the spirits' work done, the immaterial rational soul, obscurely ensconced somewhere within "Gland *H*," can observe and record the body's engraven ideas from its hidden vantage point.

Richard Russel and John Martyn, *Memoirs of the Society of Grub Street* (London: J. Willford, 1737), 79 – 80.

²⁷ René Descartes, *Treatise on Man*, tr. Thomas S. Hall. (Cambridge: Harvard University Press, 1972), 2 – 4.

²⁸ Although Descartes is inconsistent on this point. As J.J. Macintosh explains, "'Idea,' for Descartes, *often*, at least, is used for something corporeal, something *in the brain*. ... On occasion, Descartes looks for a more precise terminology and suggests using 'idea' for mental entity [i.e., something in the immaterial mind], and 'image' or 'figure' for the neurophysiological entity." J.J. Macintosh, "Perception and Imagination in Descartes, Boyle and Hooke," *Canadian Journal of Philosophy*, Vol. 13, No. 3 (Sept. 1983), 338.

Yet this careful choreography of mind and matter sometimes looks more like a struggle. At one point in the *Treatise*, Descartes explains that the animal spirits often trace distinct patterns in the same part of the brain thereby creating a kind of mental palimpsest. He writes:

But if several different figures are traced in this same region of the brain almost equally perfectly, as usually happens, the spirits will acquire a [combined] impression of them all, this happening to a greater or lesser degree according to the ways in which parts of the figures fit together. It is thus that chimeras and hippogriffs are formed in the imaginations of those who daydream, that is to say who let their fancy wander listlessly here and there without external objects diverting it and without the fancy's being directed by reason.²⁹

The details of Descartes's philosophy are obviously different from Hobbes's or Willis's, but as the above passage nicely illustrates the threat posed by materialism is the same in all accounts. For Descartes, the movements of the animal spirits are wild, frequently misdirected, and given to confusion. Without the steady hand of reason guiding them, these material spirits follow their own chaotic paths, thereby producing strange fantasies and bewildering illusions. Hence, as in Arbuthnot's work, Descartes worries that matter lends itself to confusion and mixture. Thanks to the volatility of matter, what ought to be separate and distinct sometimes can mix and coalesce—a process almost always emblemized by the creation of a monster in an otherwise reasonable mind (a chimera, minotaur, or hippogriff) and almost always connected to a poetic or imaginative disposition (here the daydreaming fancy unhindered by external things).

²⁹ Descartes, *Treatise on Man*, 96.

Even thinkers who did not rely on the impetuous motions of the animal spirits to make the mind work worried over the effects of matter on thought. Consider the case of Royal Society virtuosi Robert Hooke who puzzled over the faculty of memory. According to Hooke, memory is “as much an Organ, as the Eye, Ear, or Nose, and to have its Situation somewhat near the Place where the Nerves from the other Senses concur and meet.”³⁰ Since memory is physically locatable in the mind, it follows that the ideas memory contains must also be present in the flesh of the brain. As Lotte Mulligan notes, Hooke even went so far as to calculate the amount of ideas contained within a healthy adult brain (he reasoned that it must be around two million, since any more would lead to congestion and hence forgetting).³¹ Hooke writes:

These Ideas I will suppose to be material and bulky, that is, to be certain Bodies of determinate bigness, and impregnated with determinate Motions, and to be in themselves distinct; and therefore that no two of them can be in the same space, but that they are actually different and separate one from another; and as they have their distinct Figures, so have they each of them their distinct Qualifications of Motions and Constitutions.³²

Hooke’s description of ideas as “Bodies of determinate bigness” that are “in themselves distinct” seems to obviate the problem of mental confusion that plagued the aforementioned thinkers. But Hooke also worries that since ideas are physical things, they too will come unmoored like all matter:

³⁰ Hooke’s lecture on memory is included in *The Posthumous Works of Robert Hooke, M.D.S.R.S.* (London, 1705: Johnson Reprint, New York, 1969), 139 – 140.

³¹ *Ibid.*, 143. See Lotte Mulligan, “Robert Hooke’s ‘Memoranda’: Memory and Natural History,” *Annals of Science*, 49 (1992), 54.

³² *Ibid.*, 142.

I suppose further, that all these Ideas, though they may for a long time retain the Forms and Motions impress'd on them by the Senses, and by the Action of the Soul; yet notwithstanding they *being material, and so subject to change*, I conceive, that as the Motions may in time decay, so the Form may ... be in time alter'd, and sometimes quite lost (my italics).³³

Joseph Glanvill, in the course of surveying contemporary writings on the science of mind, provides perhaps the fullest account of the threat inherent to materialist physiology.³⁴ In Glanvill's reading, the material mind is simply unsuited to the sort of ordered and atomistic thinking that rationality requires. For Glanvill, materialism leads irrevocably to mental confusion. The physical substance of the brain, he argues, cannot hold on to particular and definite ideas for long. Descartes's model of the brain as a surface carved by animal spirits, for example, serves as a nice illustration of what can go wrong when the mind is made of matter. Glanvill dilates upon Descartes's fears that the animal spirits will superimpose confused images in the brain, thereby making aberration into a norm of the material mind:

[I]s it not likely, that the impell'd [Animal] Spirits might light upon other Pores accommodated to their purpose through the *Motion* of other Bodies through them? Yea, in such a *pervious* substance as the *Brain*, they might finde an easie either entrance, or *exit*, almost every where; and therefore to shake every grain of corn through the same holes of a Sieve in repeated winnowings, is easie to be performed as this to be conceived. Besides, it's difficult to apprehend, but that these *avennues* should in a very short time be stopped up by the pressure of other

³³ Ibid., 144.

³⁴ Joseph Glanvill and Stephen Medcalf, *The Vanity of Dogmatizing: The Three Versions*. (Brighton: The Harvester Press Ltd, 1970).

parts of the matter, through its natural *gravity*, or other alterations made in the *Brain*: And the opening of other *vicine passages* might quickly obliterate any tracks of these: as the making of one hole in the yielding *mud*, defaces the print of another near it; at least the accession of enlargement, which was derived from such transitions, would be as soon lost, as made.

Glanvill argues that the philosophy of each thinker succumbs to the same fate: matter unmakes the mind. Unguided, accidental, prone to confusion, mixture, and degradation, the corporeal mind proves to be unsuitable to mental life. According to the ancient image of the printed mind, the psyche traffics in distinct, atomistic, and particular thoughts. Ideas march before the understanding in a steady stream of particular images, and these images can be combined into new thoughts in turn. What remains obscure in seventeenth- and eighteenth-century philosophy of mind, however, is how this version of mental life could arise from malleable stuff like matter.

This last point is worth stressing. While images of distinct motions trapped in neatly separated cells or descriptions of ideas carved directly into the soft tissues of the brain might suggest to our modern sensibilities a reassuring permanence and stability, Glanvill's work reminds us that a number of late seventeenth-century thinkers did not view matter in the same way. For Glanvill, the corporeal mind is a "pervious substance" like "yielding mud," a liquid thing that perpetually mixes and eradicates its ideas. In other words, matter, in his rendering of it, is neither solid nor stable. It is mutable, fleeting, and chaotic. And it follows from this, that the mind, insofar as it was a piece of matter, was subject to the same decay as all physical things.

*

The thinker who underlined this latter point more than any other was John Locke, whose *Essay concerning Human Understanding* is often credited with describing the mind as a blank slate or *tabula rasa*. And yet, despite that reputation, a close reading of the *Essay* and its particular uses of that metaphor shows that the “blank slate” only appears intermittently in the first book of that work and that when it does appear Locke uses the figure to illustrate (and eventually condemn) the arguments of his innatist foes. The *tabula rasa*, in other words, does not illustrate Locke’s own epistemology. William Walker, for example, has tracked the manner in which “[e]nclosed space muscles out impressed substance as the principal representation of [the mind]” in Locke’s writing.³⁵ Locke, he notes, “dismisses [the blank slate] and redescribes the mind as an enclosed space *into* which ideas may enter and remain as furnishing. These two conflicting images of the mind occur on almost every page of Book I, and, in the vast majority of cases, Locke claims the containment metaphor for himself while relegating the imprinting metaphor to innatists.”³⁶ I will discuss Locke’s use of this “containment” metaphor elsewhere (Chapter 4), but for now it is important to note, as Walker does, that the blank slate does not disappear entirely the *Essay*. Instead, Locke adapts this image to other purposes in the later parts of his work. Walker writes:

But the most significant revision Locke imposes upon the innatist’s language of imprinting is in presenting the substance that receives the impression not as a figure of the mind but as the body or sensory organ. Given that the body is a substance with surfaces which may literally be impressed whereas the mind is not,

³⁵ William Walker, *Locke, Literary Criticism, and Philosophy* (Cambridge: Cambridge University Press, 1994), 34

³⁶ *Ibid.*, 34.

this revision transforms the term “impression” from a metaphor of consciousness to a literal description of the collision of material substances.³⁷

In other words, in Walker’s reading of Locke, the *tabula rasa* is wiped clean of its figurative residue and is made to serve as a “literal” description of physiological processes within the brain. In its place, “enclosed space” becomes the favored metaphor of mind. It serves as a striking but apt similitude for the longer and more complex epistemological argument that unfolds over the remainder of the *Essay*. Hence, in Walker’s analysis, the literal and the physiological stand to one side, the figural and the phenomenal to the other.

But the fact that Locke abandons the blank slate as an image for the mind also signals how troubling this physiological model could be. If, for Locke, the blank slate indicated that the mind was matter, then this fact signaled in turn that the mind’s thoughts or images could be changed or even obscured entirely. For instance, here is a rare instance of Locke adopting the printed-mind model in order to describe his own thoughts on the understanding:

Ideas, as well as Children, of our youth, often die before us: And our Minds represent to us those Tombs, to which we are approaching; where though the Brass and Marble remain, yet the Inscriptions are effaced by time, and the Imagery moulders away. *The pictures drawn in our Minds, are laid in fading Colours*; and if not sometimes refreshed, vanish and disappear. How much the Constitution of our Bodies, and the make of our animal Spirits, are concerned in this; and whether the Temper of the Brain make this difference, that in some it retains the Characters drawn on it like Marble, in others like Free-stone, and in

³⁷ Ibid., 38.

others little better than Sand, I shall not here enquire, though it may seem probable, that the Constitution of the Body does sometimes influence the Memory; since we oftentimes find a Disease quite strip the Mind of all its *Ideas*, and the flames of a Fever, in a few days, calcine all those Images to dust and confusion, which seem'd to be as lasting, as if grav'd in Marble.³⁸

This extraordinary passage unfolds almost all the anxieties about thinking matter and the mind as printed surface I have mentioned already. At first glance, Locke appears decidedly ambivalent about whether or not this decay of the mind's ideas can be attributed to matter. These sad acts of effacement *could* be thanks to the "Constitution" of the body, "the make of our animal Spirits," or even the "Temper of the Brain." But if only for a moment Locke remains typically agnostic about matter's effect on thought; his frequently stated interdiction on delving into this unknowable relation—"I shall not here enquire"—remains in effect. Nevertheless, in a move that is odd but not (as we will see in Chapter 4) singular, Locke ultimately admits that it is "probable" such erasures result from matter. After all, fevers and other diseases can strip the mind of its ideas—a point that implies that the physical can affect the mental, and that it can affect the mental because ideas (impressed as they are on living flesh) are also physical in nature. Hence, when Locke grants the body any power over mind, he grants it a negative one—a power to erase and eradicate aspects of the mental.

The problem with printing ideas on the mind, then, is that, no matter how solid the impress, those images are liable to disappear. If the mind is like a book, as St. Paul and Plato stressed, then it ought to be legible—especially to its owner. And yet, Locke, writing in a time that saw the mind become increasingly material, demonstrates that the material mind can become

³⁸ John Locke, *Essay concerning Human Understanding*, 2.10.5: 151 – 152.

illegible—even to its owner. He worries that its images can be turned into dust and confusion. Indeed, I would stress that the reason the mind becomes illegible here is because it is matter—and not say, incorporeal or insubstantial. Matter—even the solid matter of a brass tomb—decays in Locke’s writing. For Locke, this means in turn that the thoughts within our own mind might be foreign and alien to us, especially if they are confused or even eradicated by time or disease. The above passage is elegiac, and yet it is an elegy written not for lost friends but for the mind’s ideas—the very things that ought to remain closest to us. Locke—and indeed many of the above-cited writers—allows us to glimpse a world where the brain can be imprinted and rewritten without our conscious attention. They show us how ideas can belong to the corporeal mind but not the thinking subject that is supposed to be coterminous with that mind. They demonstrate how someone like Cibber can have thoughts within his head and yet not fully know or possess those thoughts.

III. THINKING THOUGHTLESS THINGS

We are now in a position to understand how the Scriblerians think matter. From Arbuthnot, we have learned that the early eighteenth century viewed matter as mutable and chaotic, as subject to random changes and bizarre lawless digressions. By examining the printed mind metaphor, we have seen how a mind of changeable matter can mean that the psyche itself can confuse and remain illegible to the conscious thinking subject. Together these arguments help us understand the world of Scriblerian satire and in particular *The Dunciad*. More specifically, they help us discern the subtle connection this world continually draws between print and thoughtlessness. In the following section, I will make that connection more prominent by showing that Scriblerian satire continually implies that the only way to produce and publish writing is to give one's self over to thoughtlessness.

*

Pope's poetry often figures the world created by an abundant and overwhelming print culture as a place of ceaseless and senseless activity. In *An Epistle to Dr. Arbuthnot* the embodiment of this interminable activity, and one of the great forces of public perturbation, is the mass of hack poets who hound Pope at home. *Arbuthnot* famously begins with a scene of domestic fortification as Pope begs his servant John to "[s]hut the door ... Tye up the knocker, say I'm sick, I'm dead." But boarding up the windows and barricading the doors cannot hold back Grub Street's onslaught. Pope laments:

What Walls can guard me, or what Shades can hide?
They pierce my Thickets, thro' my Grot they glide,
By land, by water, they renew the charge,

They stop the Chariot, and they board the Barge.
No place is sacred, not the Church is free,
Ev'n *Sunday* shines no *Sabbath-day* to me:
Then from the *Mint* walks forth the Man of Ryme,
Happy! to catch me, just at Dinner-time.³⁹

The poets are singleminded in their pursuit: they do not pray, they do not eat, they seemingly only live to harass Pope, and even this is only a means to the end of publishing their verse. In contrast to the remorseless pursuit of the Grub Street poets, Pope himself figures the life of the ideal writer as one of stasis and rest.⁴⁰ The First Epistle to the Second Book of Horace, for example, advises the poet to retire to “Grotto’s and Groves...to Ease and Silence,” to a life so sedate and so calm that when the poet returns to society—

The Boys flock round him, and the People stare:
So stiff, so mute! some Statue, you would swear,
Stept from its Pedestal to take the Air.⁴¹

For Pope, the bustle of the public world is not only inimical to a secluded, retired life, it is also detrimental to writing good verse.

When we turn to the conditions under which the Grub Street poets labor it becomes clear why incessant activity has an adverse effect on good poetry. For example, Pope’s Horatian

³⁹ Alexander Pope, *An Epistle from Mr. Pope, to Dr. Arbuthnot* in *The Poems of Alexander Pope*, ed. John Butt (Yale University Press: New Haven). Lines 7 – 14; subsequent references appear in text as *Arbuth.*

⁴⁰ For a fuller description of Pope’s positive descriptions of poetic “activity” see Douglas Lane Patey, “Art and Integrity: Concepts of the Self in Alexander Pope and Edward Young” in *Critical Essays on Alexander Pope*, eds. Wallace Jackson and R P. Yoder (New York: G.K. Hall, 1993), 176 – 192.

⁴¹ Alexander Pope, “The Second Epistle of the Second Book of Horace Imitated by Mr. Pope,” in *The Poems of Alexander Pope*, ed. Butt. Lines 120 – 123.

advice to his fellow poets—that they should wait to publish and “keep their Piece nine years”—is not taken kindly by the Grub Street hacks:

Nine years! cries he, who high in *Drury-lane*
Lull'd by soft Zephyrs thro' the broken Pane,
Rymes e're he wakes, and prints before *Term* ends,
Oblig'd by hunger and Request of friends:
'The Piece you think is incorrect: why take it,
I'm all submission, what you'd have it, make it.' (*Arbuth.* 41 – 46)

Always on the verge of publishing, never able to hold his piece long, the hack poet described in these lines is more writing machine than man. Indeed, to publish in this manner—to be all submission—the poet must cede his autonomy to impersonal, outside forces: the pangs of hunger, the pleas of friends, the whims of publishers. Whereas the great poets pore over their verse for years, the hack poet barely holds on to his long enough to correct proofs.

The hack poet, of course, is in a rush to print: “term” was a legal season in London and during this time the city was filled with more readers and hence more consumers for one’s writing. But given the curious conditions of the hack’s composition, we might well ask: *what* is he in a rush to print? Note that in the above passage there is no point at which the hack reads his own work. Our poet begins by composing unconsciously—rhyming “e’re he wakes”—and ends by allowing the finished poem to be rewritten by its recipients according to their whims (“what you’d have it, make it”). The poet’s unconscious composition is then sent off to publishers and friends, both of whom presumably correct the verse for his benefit. The hack poet is somehow able to produce writing without thinking about or even reading his own work. In other words, the poet’s verse flows directly from his unthinking mind to the printing press. Indeed, he is as

blind to the words on the page as he is to the ideas in his mind—a fact that ought to put us in mind of Locke’s image of the mind as blind to its own ideas. In effect, the hack poet is nothing more than a rather shabby Aeolian harp; his poetry passes through his head like the wind howling through his garret.

Here, then, is the paradox of the hack poet: even at his most active he is passive; even at the height of his creative powers he is thoughtless. To pay the bills the poet actively writes—in fact, he barely ceases his scribbling—but this activity is ultimately passive insofar as it is utterly controlled and spurred on by forces outside the poet’s control. To meet his endless quotas and ever-looming deadlines the hack composes in his sleep. But such composition is without the benefit of conscious thought and ultimately the poet’s editors shape his product. The end result of this active passivity is a writing and indeed thinking that is automatic, mechanical, impersonal—and Pope will describe it as such throughout *The Dunciad*. In fact, the hack poet in *Arbuthnot* strongly resembles Cibber in *The Dunciad*. We’ll remember that, having “gnaw’d” and “dash’d” his pen “to the ground,” having dived to the dregs of his wit without finding anything worth dragging back to the surface, Cibber seems to have given up on composing much of anything. Yet the poet nevertheless produces monstrous offspring—half-formed grotesqueries like abortions and sooterkins. Pope attributes Cibber’s creations to “Nonsense precipitate,” which travels through the poet’s head by sheer natural force just as the Zephyrs rush through the other hack’s dilapidated garret walls. In Cibber’s case, gravity allows nonsense to sluice through fissures in the brain. Once again we see passive creation at work: Cibber himself does not write; writing happens to him thanks to the excrescence of nonsense in his head.

The Dunciad is filled with metaphors of this kind. In each case, Pope insists that the hack poet’s work is not the result of his own innate genius—however stilted and trifling that genius

may be. Rather, bad poetry is presented always as the consequence of a natural, physical, and totally inhuman process: thus the production of bad writing is like the wind moving through an empty cave (*Dun.* I, 35 – 44), like lead bullets being forced through the barrel of a gun (*Dun.* I, 181 – 182), like the counterweight of a clock setting gears into motion (*Dun.* I, 183 – 184), and—as we have seen—like the back-and-forth see-sawing of a yo-yo’s string or like blood straying through the body’s veins (*Dun.* III, 55 – 60). In the end, such descriptions of poetic creation leave us with the impression that, in lieu of an active force or will shaping their work, the Grub Street poets are nothing more than automata with writing desks.⁴²

Hence, the hack poet’s ceaseless activity belies the fact that his very being is empty and utterly contingent, a point made most dramatically with the figure of the phantom poet in *The Dunciad*. Dulness creates this dummy poet from thin air in order to present a trophy to the victors of a race between rival publishers:

And empty words she gave, and sounding strain,
 But senseless, lifeless! idol void and vain!
 Never was dash’d out, at one lucky hit,
 A fool, so just a copy of a wit;
 So like, that critics said, and courtiers swore,
 A Wit it was, and call’d the phantom More (*Dun.* II, 45 – 50).

⁴² One could argue that Dulness is, in fact, the active force or will shaping the poet’s writing. However, Pope is ambivalent on this point. Often Dulness is presented as a rather bad muse, one who acts more as a center of gravity or rallying point for idiocy, than the prime mover or origin of bad writing. Cf., *The Dunciad*, Book III, 55 – 60, and Book IV, 81 – 90. I discuss these passages below. For an account of Dulness’s (in)activity see Pat Rogers, “The name and nature of Dulness” in *Essays on Pope* (Cambridge: Cambridge University Press, 1993), 98 – 128.

As Fredric Bogel notes, the phantom poet passage is paradoxical insofar as it collapses the distinction between copy (the dummy poet) and thing-copied (a real hack poet named More).⁴³ On the one hand, the dummy poet is obviously a copy—it is “senseless, lifeless...idol void and vain.” Yet, as Bogel points out, and as we have seen, the Grub Street poet *really is* a “senseless, lifeless” automaton who spouts “empty words.” A passage that at first appears entirely paradoxical turns out to state a simple truth of print culture: that the authors the Press creates are nothing more than automata that happen to resemble humans. Like the building facades of a Hollywood sound stage, the hack poet’s public face merely hides the fact that there is nothing behind his persona but a few scraps of discarded paper.

*

That hack authors are not people but rather, at best, machines or, at worst, mere objects, is of course the great joke of *The Dunciad*. I am not the first, nor certainly the last, to make this observation.¹³ But what is worth noting, given my reading, is that the reason Grub Street authors have become machines has everything to do with the fact that they have been shaped entirely by print. To put it another way: Grub Street poets not only publish to live (i.e., to earn money for food and shelter), they also live *because* they publish. What I mean by the latter is that publishing—putting one’s “own” work out into the public world—is the only defining characteristic Pope allows his Grub Street colleagues. Moreover, as we have seen, the hack poet’s particular style of writing means he or she must cede all reflective, inner life to impersonal, outside forces. Likewise, the hack cedes the more robust forms of “thought”—controlled, conscious, purposeful—in order to write and produce in a thoughtless manner. In this respect, print becomes an analogue for the chaotic, purposeless force of matter that Arbuthnot

⁴³ Fredric V. Bogel, “Dulness Unbound: Rhetoric and Pope’s *Dunciad*,” *PMLA* 97 (1982): 848.

describes. Indeed, to observe the culture of print at work in these poem is to come face to face with what Tony Tanner argues is a favorite trope of eighteenth-century literature: “the rather unpleasant...image of man as a useless puny irrelevant spectator of a vast mechanical display.”⁴⁴ I would go further still: to observe the hack poet at work in Scriblerian satire is to encounter the image of man *not* as a spectator of a vast mechanical display but as *part* of it, as another cog or wheel in a world transformed into a remorseless, thoughtless printing press.

To persist in the manner of the hack—to live to publish and to publish without thought—is to create a gap between the world of printed senselessness and the private world of secluded reflection, and then to plant one’s feet firmly on the far shore of the mindless. We see this divide at work in *The Dunciad*’s obsession with the mere materiality of print culture. As Emrys Jones puts it: “One way in which Pope and his predecessors exploit the Grubstreet themes is to insist on the gross materiality of *poems*, to focus attention on the poem not as a mental artifact but as so many pages of solid paper, something that can be eaten by mice, burnt for fuel, etc.”⁴⁵ Jones refers here to a passage in *The Dunciad* where Pope imagines Cibber’s poems used as fuel for fires and wrappings for oranges (*Dun.* I, 231 – 236). Kicked about by physical forces as if they were stones on a busy street, books are *only* material objects. That the writing in these books has an intellectual, non-material use is completely foreign to the world Pope creates in *The Dunciad*. Indeed, the poem continually ignores the mental labors that go into producing and reading writing. But once the human element behind the material face of the book is denied, authors too begin to look like mere objects:

Like the vile straw that’s blown about the streets,

⁴⁴ Tony Tanner, “Reason and the Grotesque: Pope’s *Dunciad*,” *Critical Quarterly* 7 (1965): 145 – 160.

⁴⁵ Emrys Jones, “Pope and Dulness” in *Pope: A Collection of Critical Essays*, ed. J.V. Guerinot (Englewood Cliffs, N.J.: Prentice-Hall, 1972).

The needy Poet sticks to all he meets,
Coach'd, carted, trod upon, now loose, now fast,
And carry'd off in some Dog's tail at last (*Dun.* III, 289 – 292).

Without an inner purpose or meaning anchoring the objects of the printed world, the poet and the book are left to cast about like trash in the street.

In materializing both poets and books, Scriblerian satire treats the mind and the printed material it produces as essentially the same in nature. After all, because they are only mere matter, there is no ontological distinction between the psyche and the printed page. Consider, for example, a passage from Swift's *Tale of a Tub*. Although the *Tale* precedes many of the satires I have discussed here, and although it attacks false learning rather than deficient creativity, Swift's description of *his* hack's scheme for imbibing universal knowledge through alchemical means brings into focus this ontological flattening of minds, books, and matter. Here is how Swift's hack instructs his readers in attaining universal knowledge:

YOU take fair Copies, well bound in Calfs Skin, and Lettered at the Back, of all Modern Bodies of Arts and Sciences whatsoever, and in what Language you please. These you distil in balineo Mariae, infusing Quintessence of Poppy Q.S. together with three Pints of Lethe, to be had from the Apothecaries. You cleanse away carefully the Sordes and Caput mortuum, letting all that is volatile evaporate. You preserve only the first Running, which is again to be distilled seventeen times, till what remains will amount to about two Drams. This you keep in a Glass Viol Hermetically sealed, for one and twenty Days. Then you begin your Catholick Treatise, taking every Morning fasting, (first shaking the Viol) three Drops of this Elixir, snuffing it strongly up your Nose. It will dilate it self

*about the Brain (where there is any) in fourteen Minutes, and you immediately perceive in your Head an infinite Number of Abstracts, Summaries, Compendiums, Extracts, Collections, Medulla's, Excerpta, quaedam's, Florilegia's, and the like, all disposed into great Order, and reducible upon Paper.*⁴⁶

It is easy enough to dismiss it as another of the hack's grand misunderstandings. Yet what Swift's hack suggests here follows naturally from the premise that books and brains are substantively the same. From the beginning, Swift's hack conceives of books not as vehicles or mediums for another thinker's ideas but as solely material objects. The words within these volumes are unimportant—they can be written “in what Language you please.” What is important, though, is that these volumes are “well bound in Calfs skin, and Lettered at the Back.” We know that the Hack sees these ornaments as merely material traits and not as indices of the valuable knowledge contained beneath the cover since his next act is to melt down his books through a bit of alchemical magic. The now liquefied and sublimated books can then be snorted directly into the brain. Even there, though, matter does not bloom into real and complete knowledge; instead, the refined volumes have been refined still further into “abstracts” and “summaries.” In the passage's greatest joke, we learn that this now cerebral writing serves as ideal material for still more books: such summaries and abstracts are readily “reducible upon Paper,” the Hack happily explains.

In passages like this, the Scriblerians are exploiting the literalization of the mind-as-book metaphor that I discussed in the previous section. The matter of the brain is the same kind of matter as the page, which means that all the hack has to do in order to “write” and “think” is to

⁴⁶ Jonathan Swift, *A Tale of a Tub*, eds. Guthkelch and Smith (Oxford: Clarendon Press, 1958), 126 – 127.

transfer the matter in his mind from one locale to another. The sense that we get in such passages, then, is that the brain and printing press can work together without the need of thought or consciousness. In Scriblerian satire, the matter of the press can be stamped directly onto the matter of the page—and vice-versa. For example, consider Pope's (and Arbuthnot's and probably Swift's) manual for writing bad verse, *Peri Bathous, or the Art of Sinking in Poetry*:

Poetry is a *natural or morbid Secretion from the Brain*. As I would not suddenly stop a Cold in the Head, or dry up my Neighbor's Issue, I would as little hinder him from necessary Writing. It may be affirm'd with great truth, that there is hardly any human Creature past Childhood, but at one time or other has had some Poetical Evacuation, and no question was much for it in his Health ... Therefore is the Desire of Writing properly term'd *Pruritus*, the *Titillation of the Generative Faculty of the Brain* ... I have known a Man thoughtful, melancholy, and raving for divers days, but forthwith grew wonderfully easy, lightsome and cheerful, upon a Discharge of the peccant Humour, in exceeding purulent Metre. Nor can I question, but abundance of untimely Deaths are occasion'd by want of this laudable Vent of unruly Passions ... From hence, it follows that a Suppression of the very worst Poetry is of dangerous consequence to the State: We find by Experience, that the same Humours which vent themselves in Summer in *Ballads* and *Sonnets*, are condens'd by the Winter's Cold into *Pamphlets* and *Speeches* for and against the *Ministry*.⁴⁷

⁴⁷ Alexander Pope, Jonathan Swift, and John Arbuthnot, *The Art of Sinking in Poetry: Martinus Scriblerus' Peri Bathous*, eds. Edna L. Steeves and Reginald H. Griffith (New York: King's Crown Press, 1952), 13 – 14.

Here poetry is mere matter: it is an evacuation from the body like a sneeze or a purge. Likewise, the brain itself is nothing but a storehouse for that matter. Once the brain has been lightened by the evacuation of verse, its owner can live a healthier life. Furthermore, throughout all that purging, verse remains a material thing; the body itself generates it in the same way it produces any other discharge. After being expelled from body and brain, poetry survives in the world as print—as all those ballads, sonnets, pamphlets and speeches that circulate throughout the public sphere in hot and cold weather. What is missing from this model, of course, is the work of an intentional, fully conscious subject. According to *Peri Bathous*, poets write because doing so literally lightens the mind. Similarly, poets create either sonnets or pamphlets not because the occasion requires one or the other modes of writing but because the weather molds their excrescences into certain forms. The Scriblerians, in other words, describe a world where print, poetry, and books can flourish even without the benefits of conscious thought.

*

This is, of course, also the world that *The Dunciad* describes more generally. As Martin Battestin helpfully explains, “*The Dunciad* records the triumph of a philosophical system that Pope, together with the Christian humanist tradition, regarded as the type and paradigm of atheistical thought down through the centuries—a system predicating a Godless universe, a world of matter only, created and governed by chance.”⁴⁸ This is “a universe consisting of blank and senseless matter, devoid of spirit or will, obedient only to the physical laws of mass and motion, governed not by Providence but by Necessity.”⁴⁹ In fact, this universe is governed (and in some sense created) by a God, namely Dulness. But Dulness herself is a mindless deity—

⁴⁸ Martin C. Battestin, *The Providence of Wit: Aspects of Form in Augustan Literature and the Arts* (Oxford: Clarendon Press, 1974), 113.

⁴⁹ *Ibid.*, 113.

“Divinity without a *Noûs*” (*Dun.* IV.244). In lieu of a divine will shaping matter into ostensibly ordered and purposeful forms, and without recognizably conscious minds following in the example of a creator-god, it is worth asking how a universe “devoid of spirit or will” came to be populated with so many artifacts—books, poems, pamphlets, etc.—that usually result from mental effort.

The Dunciad offers many—often incompatible—answers to such questions. At times, Pope’s poem suggests that the laws of this materialist universe are essentially Lucretian in nature, and that thanks to the dumb luck of a random atomic collision meaning can arise from the meaningless. Such a view entails that writing itself chaotically coalesces into meaning or diffuses into nonsense by its own accord. For example, Dulness at one point unveils to a “chosen” few “How random thoughts now meaning chance to find, / Now leave all memory of sense behind” (*Dun.* I.275 – 276). At other times, the poem (perhaps following Milton) adopts a proto-vitalist conception of matter, one that grants otherwise formless substance the potential to spring into a newly formed life under the right conditions.⁵⁰ Hence,

the Chaos dark and deep,
Where nameless somethings in their causes sleep,
Till genial Jacob , or a warm third day,
Call forth each mass, a Poem or a Play:
How hints, like spawn, scarce quick in embryo lie,
How new-born nonsense first is taught to cry,
Maggots, half-form’d, in rhyme exactly meet,

⁵⁰ For Milton’s proto-vitalist conception of matter and for Pope’s adaptations of Miltonian materialism in *The Dunciad*, see Sophie Gee, *Making Waste: Leftovers and the Eighteenth-Century Imagination* (Princeton, N.J.: Princeton University Press, 2010), 67 – 90.

And learn to crawl upon poetic feet (*Dun.* I.55 – 62).

At still other moments, the preferred materialist system is a kind of Newtonianism without God—a fully mechanistic conception of the universe where Dulness serves as a dense mass that can attract passive poets and that can make their otherwise dumb motions behave like well-designed clockwork. Thanks to her “Force inertly strong” (*Dun.* IV.7), Dulness “Involves a vast involuntary throng, / Who gently drawn, and struggling less and less, / Roll in her vortex, and her power confess” (*Dun.* IV.83-84).

The Dunciad, then, never settles on a single materialist system. Instead of philosophical coherence, it opts for leveling satire. For Pope, all materialist systems impart the same lesson: namely, that the matter which ought to contain, embody, or be shaped by thought—the page or the brain—can survive without it. Extract the mind from Arbuthnot’s idea of the body and the latter will continue to survive and perhaps even thrive, nourishing itself with blood and following some purposeless path. Subtract consciousness from the printed mind and ideas will continue to be impressed upon the fleshy tables of the heart; in fact, entire epics can be written, revised, and then erased there without anyone noticing. What *The Dunciad*—and indeed Scriblerian satire in general—reveals is a closed circuit of material production. The material ideas within the brain are transferred directly onto the matter of the page; the hack poet rhymes before he wakes and prints before term ends. What is missing from this circuit, of course, is significance, sense, thought—the sorts of things that the Scriblerians, in their more serious moments, would have associated with the spiritual and the ideal. But in a world bereft of spirit—in a world where the spirit, to borrow a phrase from Swift, has become mechanical—all that remains of thinking is an incessant cascade of mere matter passing through the head or the printing press.

The image of a world filled with the thinking matter of the brain but somehow bereft of actual thought is made clearest in Pope's satire on the scholar in *The Dunciad*. Here is how the poem describes the "Scholiasts"—essentially learned modern philosophers:

There, dim in clouds, the poring Scholiasts mark,
Wits, who like owls, see only in the dark,
A Lumberhouse of books in ev'ry head,
For ever reading, never to be read! (*Dun.* III, 191 – 194)

Once again the poem depicts the mind as if it were matter. In this case, the minds of the scholiasts are heavy with books—though not necessarily rich with the knowledge contained within them. Books inhabit their heads in the same way texts inhabit the hack's in *A Tale of a Tub*: that is, they retain a physical presence there, a point underlined when the poem describes this immense mental store of manuscripts and codices as a "Lumberhouse." This phrase emphasizes the physicality of books by devolving these artifacts from evidently purposeful human creations (think of the volumes "well bound in Calfs Skin, and lettred at the Back" from the *Tale*) back into the proto-pulpy form of inert lumber. But while the scholiasts' possess abundant building materials for further scholarship, they can assemble no lasting edifice. These scholars are always reading but will never be read themselves, since in this materialist universe reading (as we will see) must be conceived as a dumb and purposeless activity—a dynamic that becomes clearer when Pope returns to this figure in Book IV of *The Dunciad*. There the scholars directly address Dulness in the following way:

For thee we dim the eyes, and stuff the head
With all such reading as was never read:

For thee explain a thing till all men doubt it,

And write about it, Goddess, and about it (*Dun.* IV, 249 – 252).

Given the poem's relentless materializing of the spiritual, we ought to understand the normally metaphorical phrase "stuff the head" in its most literal sense: the scholars really do pack the mind with written substance. In this, they are not unlike the schoolmasters who are savaged a few lines before ("We ply the Memory, we load the brain" [*Dun.* IV.157]). It follows from this act of materialization that "reading"—usually understood as a pursuit that transforms substance (marks on a page) into the mental or ideal (knowledge in the psyche)—must be redefined accordingly. In the most obvious interpretation, the odd phrase "all such reading as was never read" signifies that scholars traffic in the obscure and the arcane, in texts that have been neglected by history (though not by the pedants). But—keeping in mind the more stringently materialist aspects of the poem—the phrase also signifies that reading has become a means of inscribing or storing information physically in the brain: information that simply adds weight, rather than knowledge, to the mind. After all, as we saw in the case of the printed mind metaphors, impressing something upon the understanding is no guarantee that it will be understood or apprehended. It is in this materialist sense of the term, then, that reading (storing, inscribing) is never read (understood, comprehended). This less obvious interpretation is confirmed by the scholars' claim that their work leads to dimness and doubt rather than enlightenment. Adding knowledge to the mind only weighs it down; it does not lighten the understanding. This interpretation is also substantiated by the syntactically similar assertion that scholars can "write about [a thing] ... and about it." As with their reading, the scholars' writing only generates more matter (more commentaries, more glosses) instead of real meaning. Ideally, a gloss should comprehend a text. But an endless string of commentaries implies that real

understanding remains on some ever-receding hermeneutic horizon. In this sense, mindlessly productive writing becomes the generative version of mindlessly retentive reading. In fact, ultimately we can recognize in both stuttering phrases (“reading as was never read”; “write about it ... and about it”) the listless, purposeless activity that Sitter identifies as the central paradox of Pope’s poem and that Arbuthnot describes as the defining endeavor of the thoughtless body. In other words, in these passages, to read and to write—preeminently mental activities—have become material in nature.

But scholars alone do not create the various texts and manuscripts that circulate throughout the world of *The Dunciad*. Poets, too, share in this process. In fact, they are born into this activity, as one of the poem’s many creation myths makes clear. At the beginning of Book III, *The Dunciad* surveys its version of the underworld, a realm where Bavius, the most ancient hack, attends to the birth of future poets:

Here, in a dusky vale, where Lethe rolls,
Old Bavius sits, to dip poetic souls,
And blunt the sense, and fit it for a skull
Of solid proof, impenetrably dull.
Instant, when dipt, away they wing their flight,
Where Browne and Mears unbar the gates of light,
Demand new bodies, and in calf’s array
Rush to the world, impatient for the day (*Dun.* III,23 – 30).

This passage is—notably enough—one of *The Dunciad*’s few allusions to anything approaching dualism. Bavius’ baby poets begin life as souls who then must be outfitted with appropriate

bodies. But even here the poem's stringent materialist logic holds sway. These poetic souls do not persist as unextended thinking substance, entities that, though embodied in thoughtless matter, can nevertheless peer out from their flesh and see the world from a coherent, mindful perspective. Instead, initial embodiment in *The Dunciad* results from blunting incorporeal thought as Bavius dips souls in the Lethe in order to prepare them for skulls. Even this act of incorporation is only the first: after being fitted for a skull, the poetic soul is then transformed into a book by the publishers Browne and Mears. Hence, the precondition for publishing, it turns out, is the dulling and indeed eradication of the sense. The poets "rush" from senselessness to matter. What these lines convey allegorically, the passage from *An Epistle to Arbuthnot* concerning the hack's composition (cited above) describes in a more recognizably psychological mode. We'll remember that the hack in that poem composes unconsciously. But this thoughtless creation becomes the easiest means to publish. In both poems—and indeed in the materialist universe of Scriblerian satire more generally—the only way to produce a book is to be bereft of thought.

The Matter of Thought in Locke and Sterne

Pray, Sir, in all the reading which you have ever read, did you ever read such a book as Locke's Essay upon the Human Understanding? – Don't answer me rashly – because many, I know, quote the book, who have not read it, – and many have read it who understand it not ...

Laurence Sterne, *The Life and Opinions of Tristram Shandy, Gentleman*¹

According to Tristram Shandy, Locke's *Essay concerning Human Understanding* is—like Joyce's *Ulysses*, Pynchon's *Gravity's Rainbow*, or perhaps even Sterne's *Tristram Shandy*—a book more quoted than read and more read than understood. Given Tristram's claim, critics often wonder precisely what Sterne himself extracted from Locke's text. Writing almost seventy years ago, Kenneth Maclean and Wilbur Cross found in Locke's philosophy—and particularly in his account of the way in which the mind associates otherwise unlike ideas—the key to understanding the curiously digressive structure of Sterne's novel.² For these critics, *Tristram Shandy* dramatizes the abstract and dry philosophy of the *Essay* by giving narrative substance to the meanderings of an associative mind. Following this work, however, a more complicated understanding of Sterne's debts to Locke emerged. John Traugott and Helene Moglen both stressed that while Sterne read and respected Locke, he also subtly sided against some of the latter's central precepts.³ In Moglen's words, Sterne is “more than a naïve disciple of Locke”; he

¹ Laurence Sterne, *The Life and Opinions of Tristram Shandy, Gentleman*, eds. New and New (London: Penguin Books, 2003), 70. All further citations are from this edition and appear in text as *TS*.

² See Wilbur Cross, *Life and Times of Laurence Sterne*, 3d ed. (New Haven, 1939), esp. 52 and Kenneth MacLean, *John Locke and English Literature of the Eighteenth Century* (New York: Russell & Russell, 1962).

³ John Traugott, *Tristram Shandy's World: Sterne's Philosophical Rhetoric* (Berkeley: University of California Press, 1954) and Helene Moglen, *The Philosophical Irony of Laurence Sterne* (Gainesville: University Presses of Florida, 1975). In addition to Traugott and Moglen, see also Mark Loveridge who similarly sketches out a Sterne both critical and indebted to Locke (*Laurence Sterne and the Argument About Design*. Totowa, N.J.: Barnes & Noble Books, 1982) and Howard Anderson who argues more specifically that Sterne borrows from Locke's account of associationism but also attacks it in order to defend the honor of wit (Howard Anderson, “Associationism and Wit in *Tristram Shandy*,” *Philological Quarterly*, 48: 1, (Jan. 1969), 27 – 42.

is also “a perceptive and creative critic of [Locke’s] philosophy.”⁴ For scholars like W.G. Day and John Mullan, Sterne’s criticisms of Locke are more extreme.⁵ Mullan argues that “Locke is not Sterne’s intellectual mentor. His writings are invoked in order to show the superiority to such specialized philosophy of the descriptions that narrative can provide.”⁶ For still other critics, like Jonathan Lamb and Christina Lupton, Locke’s ostensible influence on Sterne is a chimera that must be exposed before the real source of Sterne’s ideas—namely, the work of later associationists like Hartley and Hume—becomes evident.⁷

As even a brief survey of the secondary literature on this subject makes clear, then, there is no critical consensus concerning Locke and Sterne’s precise connection. In fact, the writing dealing with Locke’s influence on Sterne is so rich, so complex, and so fundamentally undecided about the basic facts of this relationship that it is now customary to begin new work on this topic with a short note alerting readers to past intricacies and still present uncertainties—an obligation that I hereby fulfill (in a moment of typically Shandean self-reflexivity) with this sentence. In fact, given the contentious nature of the scholarship on Locke and Sterne, the safest assumption may be Melvyn New’s: “That we cannot even settle the most basic problem of whether Sterne agrees or disagrees with Locke is perhaps a strong indication that the question has not yet been asked in a manner that could provide a satisfying answer.”⁸

⁴ Moglen, *The Philosophical Irony of Laurence Sterne*, 10.

⁵ W.G. Day, “*Tristram Shandy*: Locke May Not Be the Key” in Myer, Valerie Grosvenor, ed., *Laurence Sterne: Riddles and Mysteries* (1984): 75 – 83, and John Mullan, *Sentiment and Sociability: The Language of Feeling in the Eighteenth Century* (Oxford: Clarendon Press, 1988).

⁶ Mullan, *Sentiment and Sociability*, 165.

⁷ Jonathan Lamb, *Sterne’s Fiction and the Double Principle* (Cambridge: Cambridge University Press, 1989), esp. 56 – 82, and Christina Lupton, “*Tristram Shandy*, David Hume, and Epistemological Fiction,” *Philosophy and Literature*, 2003, 98 – 115.

⁸ Melvyn New and Joan New (eds.), *The Florida Edition of the Works of Laurence Sterne* (Gainesville: University Presses of Florida, 1978), vol. III, 17.

The following chapter is an attempt to ask this question in a satisfying manner. I do not think it is the only way to ask the question—and I am less dissatisfied than New with previous attempts to do so. Nevertheless, I want to point to aspects of Locke's thought that certainly did influence Sterne and that nevertheless have been neglected in secondary criticism on the latter thinker—a neglect that has led to some of the current difficulties in our understanding of these writers. Despite the diversity of opinions concerning the relationship of Locke and Sterne, most critics share at least one thing: they all read Locke as a philosopher primarily interested in questions of epistemology and language—questions that are foregrounded in the *Essay*'s seminal chapter on the association of ideas. But as I've tried to illustrate throughout this dissertation, Locke is as much fascinated by what we might call ontological questions (what is matter? can it think?) as he is by problems of knowledge and language. That Locke raises these ontological questions only to dismiss them as intractable and impossible is beside the point: even a discourse concerning how we cannot understand the real nature of matter says something about the nature of matter. Even more importantly, though, Sterne himself reads Locke with an eye towards the latter's (often disavowed) ontology. Neglecting Locke's work on matter and the body, then, is also to neglect important aspects of Sterne's corpus. What Locke provides Sterne, I'll argue, is not only a series of pronouncements on the nature of words and ideas but also a way of thinking about the contours of body and mind in the long eighteenth century. With that in mind, it's important to say a few words on Locke's knowledge of the body before considering Sterne's reception of that thinker more fully.

*

John Locke probably never intended the *Essay concerning Human Understanding* to have an impact on literature or aesthetics. Whereas Hobbes made an effort to extend his science

to these domains by corresponding with poets and writing explicitly literary-critical treatises like the *Answer to Davenant*, Locke's influence on these fields—which by the end of the eighteenth century was immense—was largely inadvertent. That the *Essay* nevertheless managed to impact so many poets, critics, and novelists is a testament both to its central importance in Restoration and eighteenth-century culture more generally and to one of the keener ironies of history.⁹

Concerning the latter, consider that the section of the *Essay* that has interested both contemporary and modern literary critics most—the chapter on the association of ideas—largely disparages this sort of thinking as a source of error and delusion. This chapter, added late to the *Essay* but eventually understood as key to questions of taste and aesthetics in the second half of the eighteenth century, is essentially an explication of madness. Hence, rather than demonstrating how the *Essay*'s novel philosophy of mind could explain imaginative and poetic production, Locke instead shows how such things deviate from the epistemological norms that the *Essay* seeks to establish.

But this aesthetic and literary-critical section of the *Essay* deviates from Locke's stated aims in another way as well. In addition to connecting imagination to madness and association to delusion, Locke also ties these aberrant faculties to the body and to matter. Locke argues, for example, that the mind associates and confuses otherwise distinct ideas because animal spirits have carved smooth pathways into the brain. Likewise, he contends that enthusiasts falsely imagine themselves inspired by God due to the "conceits" that arise from their over-heated fancies. Worse still, because their madness is the result of errors inscribed directly onto the brain

⁹ For Locke's impact on eighteenth-century aesthetics generally see M.H. Abrams, *The Mirror and the Lamp: Romantic Theory and the Critical Tradition*. (New York: Oxford University Press, 1953) 57 – 69, 156 – 183. For his impact on the "association of ideas" see Martin Kallich, *The Association of Ideas and Critical Theory in Eighteenth-Century England: A History of a Psychological Method in English Criticism*. (The Hague: Mouton, 1970). For his influence on the novel see Ian Watt, *The Rise of the Novel: Studies in Defoe, Richardson, and Fielding*. (Berkeley: University of California Press, 1957) 15 – 30 and more recently Nancy Armstrong, *How Novels Think: The Limits of Individualism from 1719-1900*. (New York: Columbia University Press, 2005) 3 – 11.

rather than simply mistakes in reasoning, enthusiasts and mad men are incapable of recognizing the absurdity of their thought. Hence, madness is the “most dangerous” of “the Errors in the World ... since so far as it obtains, it hinders Men from seeing and examining” their thoughts (2.33.18).¹⁰

Claims like this—since they come from the philosopher who delimited and defused the problem of thinking matter most powerfully—should be surprising. As we have seen, Locke himself is not a materialist, and a great deal of the *Essay* attempts to circumvent materialist explanations of mental faculties. As he explains plainly in the second paragraph of the *Essay*: “I shall not at present meddle with the Physical Consideration of the Mind” (1.1.2: 43).¹¹ In fact, as I’ll demonstrate, Locke’s refusal to “meddle” with the physical and material structures of the mind makes the *Essay*’s real project—examining the work of consciousness—possible in the first place. Given Locke’s refusal to countenance materialism, then, how can we account for his turn to physiology and pathology when describing the bodily errors of the imagination and fancy?¹²

¹⁰ In another chapter in the *Essay*, one that appeared in earlier editions of that work, Locke describes madness in similar terms: “[Mad men] having joined together some *Ideas* very wrongly, they mistake them for Truths; and they err as Men do, that argue right from wrong Principles. For by the violence of their Imaginations, having taken their Fancies for Realities, they make right deductions from them” (2.11.13).

¹¹ All citations are from John Locke, *An Essay Concerning Human Understanding*, ed. Nidditch (Oxford: Clarendon Press, 1975), 43.

¹² Throughout this chapter I use “imagination” or “fancy” as general terms for the more particular mental processes Locke discusses in the sections of the *Essay* on wit/fancy (he uses the terms interchangeably), the association of ideas, and enthusiasm. In doing so, I follow Michael Ayers who attributes mental error in these sections to the “physiology of the imagination” (see his *Locke: Epistemology and Ontology*. [London: Routledge, 1993], 112). Unlike Hobbes or Addison—the two most important figures astride the *Essay*—Locke never defines imagination or fancy with any rigor. He uses “fancy” to describe a mental quality fourteen times in the *Essay*. Seven of those uses refer to either wit or the association of ideas; the other uses paint fancy as a wild, extravagant, and false faculty. Similarly, Locke uses “imagination” to name a quality of mind twenty-three times in the *Essay* (though he uses “imaginings” more often). Like fancy, imagination often deludes the mind with false or confused images.

One way to answer this question is to note that what seems especially troubling to thinkers like Locke is the possibility that matter, largely following its own chaotic and random laws, could create images in the mind—and that we might never know how or why it does so. Unguided, accidental, prone to confusion, mixture, and degradation, matter is wholly unsuited to the ordered and rational thought that Locke famously explicates in the pages of the *Essay*. Given this anxiety, it's telling that when Locke describes normal conscious thought he puts matter out of mind. According to the strict claims of the *Essay*, the thoughts in the head might well be the result of the matter in the brain. And yet Locke only considers this possibility when he describes aberrant and confused thinking. In other words, matter only gets to think when the mind thinks badly. Hence, when Locke talks about madness and mental confusion, he talks about the “brain,” a bodily organ comprising nerves, flesh, and animal spirits. However, when Locke describes normal, rational thought, he talks about the “mind,” an entity strangely free from the confusions and uncertainties of matter. While Locke's principled agnosticism made it impossible for him to determine whether or not matter could think, the contradictions and evasions of the *Essay* itself tell a different story: matter can think, and more disturbing still matter—nerves, flesh, animal spirits—cannot lead to the sort of ordered and rational thought the *Essay* famously describes. If Locke rejects the “physical consideration of the Mind,” he does so in the hope of rescuing a kernel of conscious thought from the frightening possibility that matter might be at the root of the images and thoughts that populate consciousness.

My goal in the following pages isn't to explain away this inconsistency or to demonstrate how it obviates the more general claims of Lockean philosophy.¹³ Strictly speaking, Locke's

¹³ Michael Ayers is one of the few scholars to have remarked upon this inconsistency (much less offered an explanation). He argues that Locke's turn to physiology when describing mental error is “consonant with Cartesian physiological explanations of error (especially prominent in Malebranche's *Search after Truth*) which attribute

claims about the physiology of madness in the fourth edition of the *Essay* exceed the strict epistemological guidelines that the remainder of that work lays down. Nevertheless, despite their obvious dissimilarities, Locke's writings *against* physiology and his writings *about* physiology have more in common than may be evident at first glance. In both instances, the body's impact on mind remains a blind spot for rational thought. Just as Locke's cautious empiricism dictates that we must remain blind to the manner in which the matter of the brain produces conscious ideas in the mind, Locke's speculative neuro-pathology contends that the mad are similarly blind to whether or not their ideas are produced by rational means or by the flux of misbehaving matter. As I'll demonstrate, then, Locke's cautious empiricism and his speculative pathology point to a more general anxiety in the *Essay* (and in the eighteenth century): an anxiety about our blindness to the ways in which body and brain affect the conscious mind.

*

This anxiety also suffuses Sterne's work. I'll argue that Locke's greatest influence on Sterne was in conveying this lesson about the mysterious relation of body and mind. But what manifests as an unacknowledged contradiction in Locke's philosophy—namely, his claims throughout the *Essay* that we cannot know how matter affects the mental and his argument that physiology definitively determines thought—appears as a more purposeful irony in Sterne's novel. Sterne, I'll show, borrows from both versions of Locke: the skeptic and the physiologist.

irrationality and delusion to the influences of the corporeal imagination. Where Locke differed radically from the Cartesians, however, was in making no move towards ascribing rationality and right-thinking to some higher, non-material faculty of pure intellect operating with pure, non-sensory ideas. So far from doing that, he was prepared to describe even irrational association of ideas as 'intellectual habits'" (Ayers, *Locke* 47). I agree with Ayers up to a point. However, in this chapter I put more emphasis on the influence of British thinkers like Thomas Willis rather than Cartesians like Malebranche.

That is, he delights in playing the cautious and pragmatic chronicler of the understanding as well as the wild and speculative physiologist of the body and brain. Moreover, he often slips between these two positions with little warning. Consider, for example, a brief episode where Walter drifts off to sleep as he contemplates his brother Toby's claim that a smoke-jack rather than a lantern is a better image for thinking about the mind. Here is the event told from the side of the mental—that is, from the subjective (though freely indirect) point of view:

Tho' my father persisted in not going on with the discourse,—yet he could not get my uncle *Toby's* smoak-jack out of his head,—piqued as he was at first with it;—there was something in the comparison at the bottom, which hit his fancy; for which purpose resting his elbow upon the table, and reclining the right side of his head upon the palm of his hand—but looking first steadfastly in the fire—he began to commune with himself and philosophize about it (*TS* 157).

Now here is the same event described from the side of the material—that is, from an objective, third-person point of view that pretends to gaze directly upon the mechanisms of Walter's body and brain:

[B]ut his spirits being wore out with the fatigues of investigating new tracts, and the constant exertion of his faculties upon that variety of subjects which had taken their turn in the discourse—the idea of the smoak-jack soon turned all his ideas upside down—so that he fell asleep almost before he knew what he was about (*TS* 157).

These shifts between mental and material—between a description of the minute particulars of Walter's mental state and a scientific account of his body's material events—are so common in

Sterne's narrative that often they can go unnoticed. But they are worth noticing and worth noticing as odd. As I'll argue more fully, what Sterne suggests in this juxtaposition of the mental and the material is both contiguity and discontinuity. He describes a single event—Walter thinking about a metaphor and falling asleep—but he does so from two irreconcilable viewpoints. The world of the mental (Walter's mind is "piqued"; something "hits his fancy") is evidently not the world of the material (the animal spirits investigate tracts in the mind). Yet somehow these worlds coexist. Somehow these disparate ways of naming and perceiving things nevertheless denominate the same thing: Walter's embodied thoughts.

With this in mind, the following chapter is as much a reading of Locke as it is an interpretation of Sterne. Reading Locke and Sterne together requires a sort of double vision. It means, on the one hand, reading Locke as Sterne did: that is, as a thinker who often provides profound philosophical insights into the workings of the mind—the natural ground of the novelist, after all—but who can be contradictory and sometimes conflicting in his writing. Indeed, let me suggest that one reason critics have so much trouble determining whether Sterne agrees or disagrees with Locke is because this way of thinking implies that there is a stable, coherent Lockean philosophy with which one can agree or disagree in first place. I'll argue, in fact, that Locke's philosophy is riven by an internal contradiction, one that nevertheless resolves into a coherent view of (our inability to understand) matter and mind. Such an interpretation also means reading Sterne as a writer who was a better reader of Locke than many of his contemporary critics. It means taking Sterne seriously as a thinker who not only adapted Lockean philosophy to his own purposes, but who—in dramatizing this philosopher—settled on a similar view of mind and matter.

This chapter has four sections—the first two deal with Locke, the second two with Sterne. The first section (“A Plain History of the Understanding”) asks why it is that Locke adopts an “agnostic” attitude towards questions of matter and thought in the first place. I argue that Locke’s agnosticism derives in large part from an effort to divide something we can know (namely, the conscious mind) from what we cannot (the nature of matter), thereby creating the self-enclosed, punctual self that I mentioned above. Locke reminds his readers that they may not know about the underlying nature of the external world, but they can rest assured that they know the thoughts in the mind. The second section (“What’s the Matter with Madness?”) turns directly to the parts of the *Essay* on the “physiology of the imagination.” I argue that the material imagination poses two threats for normative epistemology. First, it confuses otherwise distinct ideas in the mind. Second, in addition to confusing the mind, the imagination also makes the mind unable to rectify its errors.

The third section (“The Enlightened and Dark Parts”) surveys Sterne’s borrowings from Locke. I show there that Sterne adapts *both* the skeptical Locke *and* the speculative Locke. He does so, I argue, in order to stress that, though the body and mind interact, we cannot know precisely how they do so. The fourth section (“A Plain History of Speculation”) builds on this insight by analyzing a single episode in Sterne’s novel, one that brings the contradictions and ironies that I track throughout this chapter to the foreground. In this episode, Sterne juxtaposes two ways of looking at the mind and body—an exterior view that bars access to the inner workings of the psyche and an interior view that reveals precisely what is happening within the brain—in order to demonstrate that both views evince a profound blindness concerning the interaction of the material and mental worlds.

I. LOCKE: A PLAIN HISTORY OF THE UNDERSTANDING

Before contending with the *Essay*'s curious lapses into an otherwise disavowed neurophysiology, I want to explore Locke's reasons for denying such theories of mind in the first place. It is implied early on in the *Essay* that there is a great deal at stake in circumventing physiology. If the purpose of that text is, as Locke puts it, "to enquire into the Original, Certainty, and Extent of humane Knowledge" (1.1.2: 44), then this project only gets off the ground once the weighty conjectures of materialist philosophy of mind have been jettisoned from the *Essay*'s pages. Locke writes:

I shall not at present meddle with the Physical Consideration of the Mind; or trouble my self to examine, wherein its Essence consists, or by what Motions of our Spirits, or Alterations of our Bodies, we come to any Sensation by our Organs, or any *Ideas* in our Understandings; and whether those *Ideas* do in their Formation, any, or all of them, depend upon Matter, or no. These are Speculations, which, however curious and entertaining, I shall decline, as lying out of my Way, in the Design I am now upon (1.1.2: 44).

With questions concerning the corporeality of the mind put aside, the *Essay* can attend to its real subject: the human brain seen not as a piece of dead matter that somehow produces ideas and sensations, but rather the mind understood as an active and alive entity, one that grapples with objects in the world as well as ideas in the psyche. The above passage continues like so:

It shall suffice to my present Purpose, to consider the discerning Faculties of a Man, as they are employ'd about the Objects, which they have to do with: and I shall imagine I have not wholly misemploy'd my self in the Thoughts I shall have

on this Occasion, if, in this Historical, plain Method, I can give any account of the Ways, whereby our Understandings come to attack those Notions of Things we have, and can set down any Measures of the Certainty of our Knowledge on the Grounds of those Perswasions, which are to be found amongst Men, so various, different, and wholly contradictory (1.1.2: 44).

To the modern reader, weaned on a heady blend of materialist philosophy and cognitive neuroscience, these passages seem to enact a curious reversal. For one thing, the physical mind appears oddly insubstantial in the first quotation. Under Locke's cautious gaze, the corporeal mind in its messy, vibrant reality—the brain as organ or body cut through with animal spirits and pulsing with strange atomic motions—dissolves into the stuff of uncertain rumor and speculation. In its place, the seemingly more abstract model of the understanding as it is “employ'd” with various mental objects—we would call this sort of employment “consciousness” today¹⁴—gains an immediacy and a ready perceptibility that its physiological counterpart lacks. Locke explains that it is only thanks to observing this non-physiological model of mind that he finally can “set down any Measures of the Certainty of our Knowledge,” a task that relegates speculations on neurophysiology to “curious and entertaining” but ultimately idle anatomy lessons.

That Locke consigns the “Physical Consideration of the Mind” to obscurity might surprise those critics who have invested so much in reading him as a kind of mistaken materialist. Nevertheless, claims like this are of a piece with the larger aims of his work—not to

¹⁴ Locke, we'll remember, defines “consciousness” in the *Essay* as “the perception of what passes in a Man's own mind” (2.1.19: 115).

mention of a piece with the “empirical” nature of his philosophy.¹⁵ As Locke notes in the above passage, and as Sterne mentions in *Tristram Shandy*, the *Essay* is written according to the rules of the “Historical, plain Method.” In late seventeenth-century philosophy of science, the phrase served as a term of art, one loosely adapted from Bacon’s distinction between “natural philosophy” and “natural history.”¹⁶ “Natural philosophy” sought to build complete metaphysical systems that could account for a host of phenomena, while “natural history” took on the more modest task of observing and cataloguing a set of facts without speculating into their underlying nature. To borrow an example from Michael Ayers: Robert Boyle’s sincere but unconfirmed conviction that the nature of reality could be explained by the motion and texture of invisible atoms or “corpuscles” is an example of “natural philosophy,” while Boyle’s insight into the inverse relationship of pressure and volume in a gas (known today as “Boyle’s Law”) operates as a “natural history,” since this law merely records an observable fact rather than speculating upon its underlying cause.¹⁷ For Locke’s *Essay* to read as a “history,” then, it too

¹⁵ For an explanation of how Locke’s “empiricism” arose from his early medical interest see Jonathan Walmsley, “Sydenham and the Development of Locke’s Natural Philosophy,” *British Journal for the History of Philosophy*, 16 (1) 2008: 65 – 83. Charles T. Wolfe argues that Locke’s version of empiricism, with its roots in medical practice, is in tension with the “experimental” empiricism of Royal Society luminaries like Bacon and Boyle. See his “Empiricist Heresies in Early Modern Thought” in *The Body As Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science*, eds. Wolfe and Gal, (Netherlands: Springer, 2010), 333 – 344. In contrast, Stephen Gaukroger argues that Locke’s empiricism parallels Boyle’s own thoughts on experiment and observation. See his “The Role of Natural Philosophy in the Development of Locke’s Empiricism,” *British Journal for the History of Philosophy*, 17 (1) 2009: 55 – 83).

¹⁶ I’ve discussed this distinction, with reference to Bacon on analogy, in Chapter 2 above. For a fuller account of these terms see Katharine Park and Lorraine Daston, “Introduction” in *Early Modern Science*, eds. Park and Daston, (Cambridge: Cambridge University Press, 2006), 4. Locke warns against accepting hypotheses without first testing them against observable facts elsewhere in the *Essay*: “[W]e should *not take up* [a Hypothesis] *too hastily* ... till we have very well examined Particulars, and made several Experiments, in that thing which we would explain by our Hypothesis, and see whether it will agree to them all; whether our Principles will carry us quite through, and not be as inconsistent with one *Phoenomenon* of Nature, as they seem to accommodate and explain another” (4.12.13: 648).

¹⁷ Ayers, *Locke* 17. As Boyle puts it: “There is a big difference betwixt the being able to make Experiments, and the being able to give a Philosophical Account of them.” See *The Works of Robert Boyle*, eds. Hunter and Davis, vol. II (London: Pickering & Chatto, 1999). Elsewhere in the *Essay*, Locke also warns against accepting hypotheses without first testing them against observable facts: “[W]e should *not take up* [a Hypothesis] *too hastily* ... till we have very well examined Particulars, and made several Experiments, in that thing which we would explain by our

must confine itself to observing and cataloguing the available facts of consciousness. This means attending solely to the ideas that populate the conscious mind rather than guessing at their more fundamental material nature.¹⁸ As Locke puts it:

[M]y present purpose being only to enquire into the Knowledge the Mind has of Things, by those *Ideas*, and Appearances, which *God* has fitted it to receive from them, and how the Mind comes by that Knowledge; rather than into their Causes, or manner of Production, I shall not, contrary to the Design of this Essay, set myself to enquire philosophically into the peculiar Constitution of Bodies, and the Configuration of Parts, whereby they have to power to produce in us the *Ideas* of their sensible Qualities (2.21.73: 287).

In other words, the precise nature of ideas, their physical constitution, and the disposition of the organs that receive and retain them—all of these things lie outside the more limited purview of Locke’s “history.” They form a dark background to the starker images that draw the *Essay*’s attention: ideas as they are immediately present and perceptible to the conscious mind.¹⁹

We should be careful, though, when stressing the limits of Locke’s project since doing so can give the sense that the *Essay* is a more modest, more cautiously superficial undertaking than

Hypothesis, and see whether it will agree to them all; whether our Principles will carry us quite through, and not be as inconsistent with one *Phoenomenon* of Nature, as they seem to accommodate and explain another” (4.12.13: 648).

¹⁸ A usage that Sterne certainly was aware of: “Pray, Sir, in all the reading which you have ever read, did you ever read such a book as Locke’s *Essay upon the Human Understanding*? ... I will tell you in three words what the book is. – It is a history. – A history! of who? what? where? when? Don’t hurry yourself. – It is a history-book, Sir, (which may possibly recommend it to the world) of what passes in a man’s own mind; and if you will say so much of the book, and no more, believe me, you will cut no contemptible figure in a metaphysic circle.” Laurence Sterne, *The Life and Opinions of Tristram Shandy, Gentleman*, eds. New and New (London: Penguin Books, 2003), 70.

¹⁹ In other words, Locke refuses to say whether or not ideas have some physical presence in the mind; they may not be “corporeal ideas”—a view that caused some controversy for the first readers of the *Essay*. See Emily Michael and Fred S. Michael, “Corporeal Ideas in Seventeenth-Century Psychology,” *Journal of the History of Ideas*. 50.1 (1989): 31-48.

it really is. In fact, the *Essay*'s self-imposed constraints in one area usually unloose possibilities in another. If Locke cuts off ideas at their roots, leaving accounts of their material and physical causes to wither away in dark conjectures, he does so in the hope of seeing them bloom all the more brightly in the mind. This curious strategy—transforming moments of apparent limitation or obscurity into secret strengths and more abundant sources of clarity—occurs throughout the *Essay*, but it is especially evident in a series of markedly figurative passages in its first chapter. Building on earlier admonitions against neurophysiology, these passages strengthen the case for abandoning epistemologically unsteady ground. We must, Locke tells us, “search out the *Bounds* between Opinion and Knowledge; and examine by what Measures, in things whereof we have no certain Knowledge, we ought to regulate our Assent, and moderate our Perswasions” (1.1.3: 44). We should “prevail with the busy Mind of Man, to be more cautious in meddling with things exceeding its Comprehension; to stop, when it is at the utmost Extent of its Tether” (1.1.4: 44 – 45). We ought to avoid acting like the servant “who would not attend his Business by Candle-light, to plead that he had not broad Sun-shine [since] The Candle, that is set up in us, shines bright enough for our Purposes” (1.1.5: 46). We should take to heart the lesson of the sailor “who know[s] the length of his Line, though he cannot with it fathom all the depths of the Ocean. ’Tis well he knows, that it is long enough to reach the bottom, at such Places as are necessary to direct his Voyage, and caution him against running upon Shoals, that may ruin him” (1.1.6: 46). And:

For I thought that the first Step towards satisfying several Enquiries, the Mind of Man was very apt to run into, was, to take a Survey of our own Understandings, examine our own Powers, and see to what Things they were adapted. Till that was done I suspected we began at the wrong end, and in vain sought for

Satisfaction in a quiet and secure Possession of Truths, that most concern'd us, whilst we let loose our Thoughts into the vast Ocean of *Being*, as if all that boundless Extent, were the natural, and undoubted Possession of our Understandings, wherein there was nothing exempt from its Decisions, or that escaped its Comprehension. ... Whereas were the Capacities of our Understanding well considered, the Extent of our Knowledge once discovered, and the Horizon found, which sets the Bounds between the enlightned and dark Parts of Things; between what is, and what is not comprehensible by us, Men would perhaps with less scruple acquiesce in the avow'd Ignorance of the one, and imploy their Thoughts and Discourse, with more Advantage and Satisfaction in the other (1.1.7: 47).

Although none of these quotations mentions the rejection of “physical consideration[s] of Mind” that worried Locke earlier in the *Essay*, they nevertheless repeat a similar lesson: one must hew away areas of ambiguity and uncertainty in order to clear a more stable and certain place for human understanding. More striking still, though, is the manner in which these passages impart that message. For a moment in the *Essay*, Locke ornaments his “historical, plain Method” with a series of images that turn mind and world into topographically distinct zones. Thanks to these figures, the mind appears as an illuminated, surveyed space, a site where our knowledge of things can be certain and evident. Beyond the confines of the psyche, however, stretches a vast, unfathomable, and illimitable waste, a realm where we at best reside in stupefied skepticism and at worst suffer in frustrated ignorance.²⁰ The purpose of these images, of course, is to divide

²⁰ Describing the experience of absolute doubt as akin to being set adrift in a “boundless sea” was a common motif in the late seventeenth century. For example, Rochester’s “Satyr against Reason and Mankind”: “Whilst the misguided follower climbs with pain / Mountains of whimseys, heaped in his own brain;/ Stumbling from thought

what can be known (the conscious mind) from what only can be guessed at (metaphysical considerations of the nature of reality or “being”). But they also work to illustrate what Cathy Caruth has called Locke’s “philosophical humility topos”: a moment when the apparent “limitation of reason, really tells of a new and unbounded power over its own territory.”²¹

At least in principle, then, the internal territory that the *Essay* explores can be mapped in its entirety. For Locke, the mind has no unconscious, no dark corner or obscure vestibule where an idea or thought might lurk unseen and disregarded.²² Locke’s epistemology closes the gap between having an idea somewhere within the mind (for example, imprinted on the understanding by the senses) and being able to consciously perceive that idea: “For if these Words (*to be in the Understanding*) have any Propriety, they signify to be understood. So that, to be in the Understanding, and, not to be understood; to be in the Mind, and, never to be perceived, is all one, as to say, any thing is, and is not, in the Mind or Understanding” (1.2.5: 50 – 51). Locke is well aware, of course, that we do not have immediate and intuitive access to all of the thoughts and images that populate the understanding—that particular ability belongs perhaps only to angels or some higher beings (4.3.6: 543). Nevertheless, the *Essay* promises its readers that, should they take the time to survey properly their internal worlds, then nothing will be hidden from view.

to thought, falls headlong down / Into doubt's boundless sea where, like to drown, / Books bear him up awhile, and make him try.” For uses of this image more generally see James Noggle, *The Skeptical Sublime: Aesthetic Ideology in Pope and the Tory Satirists*. (Oxford: Oxford University Press, 2001).

²¹ Cathy Caruth, *Empirical Truths and Critical Fictions: Locke, Wordsworth, Kant, Freud*. (Baltimore: Johns Hopkins University Press, 1991).

²² Locke’s well-known polemic against innate ideas, for example, nicely illustrates this point. According to the innatist theories that Locke attacks in the *Essay*, gaining knowledge about certain universal principles is a matter of discovering ideas somehow imprinted on the soul at its birth. Locke is suspicious, though, that this argument implies that certain thoughts are somehow present within the mind but not consciously apprehended. For Locke, this argument leads to a paradox. He writes: “it seeming to me near a Contradiction, to say, that there are Truths imprinted on the Soul, which it perceives or understands not; imprinting, if it signify any thing, being nothing else, but the making certain Truths to be perceived” (1.2.5: 49).

I want to suggest that Locke's rejection of physiology and neuroanatomy—his insistence that conjectures into the constitution of bodies and ideas must be cordoned off from the natural history of the *Essay*—is of a piece with this quest to gain certain knowledge of the self by banishing uncertainty to an obscure outside. We can better survey human knowledge, Locke argues, by first marking off its boundaries. Once we have cleared away intractable places of confusion, we can then set to work exploring this new territory. The same logic applies to consciousness itself: we can better illuminate the conscious mind by keeping the roots of consciousness out of sight. Hence, “the peculiar Constitution of Bodies, and the Configuration of Parts” that are the “Causes, or manner of Production” of the ideas that flicker before the inner eye must themselves remain obscure and unknowable. No amount of work will bring certain facts of consciousness (for example, how matter produces thought) to light. The implication here is that physiology and neuroanatomy belong, along with other equally speculative topics, to that great sea of metaphysical doubt that licks the shores of certainty.

*

One reason Locke refuses to “meddle with the Physical Consideration of the Mind,” then, has to do with the *Essay*'s strategy for identifying and thereby cordoning off intractable questions about the ways in which matter relates to mind. But this strategy raises a series of questions in turn: why did Locke insist that such questions are unanswerable in the first place? Why does the *Essay* contend that neurology, rather than aiding the “history” of the understanding, would only obscure such efforts? Why must Locke put matter out of mind before he can concentrate on the thoughts within the mind? In order to answer these questions, I want to consider some facts about Locke's medical education before turning to a fuller consideration of the *Essay*'s rejection of neurology.

Locke's attitude toward neurology hardly results from ignorance of contemporary physiology or brain anatomy. As I've discussed more fully elsewhere in the dissertation [Introduction again], and as historians like Kenneth Dewhurst and Patrick Romanell have shown, Locke's early medical training at Oxford exposed him to a number of advancements in science and medicine.²³ During his time at Christ Church, Locke met and corresponded with experimentalists like Robert Boyle, Robert Hooke, and Richard Lower; he performed anatomical experiments of his own in order to better understand the mechanics of respiration; he wrote a treatise on the same topic and another on the nature of disease and contagion; and—as I've mentioned before—he attended a series of lectures by Thomas Willis.

Nevertheless, by the time he left Oxford in 1667, Locke's capacious medical pursuits had changed direction considerably. Locke rejected his earlier experiments in anatomy along with his speculations into the nature of respiration and disease. In their place, he adopted a stance of epistemological modesty that would survive into his more mature work. The impetus for this turn is usually traced to the influence of one man: Dr. Thomas Sydenham.²⁴ An important physician in his own right, Sydenham's energy seemingly focused on two pursuits: composing detailed case histories of his patients' maladies and writing treatises decrying anatomy and natural philosophy. Sydenham doubted that physicians could ever understand the precise nature and causes of the diseases they encountered. The best they could do was observe the disease carefully, register its effects on a patient, and record successful treatments if any could be found.

²³ For Locke's medical background see Kenneth Dewhurst, *John Locke, 1632-1704, Physician and Philosopher: A Medical Biography with an Edition of the Medical Notes in His Journals*. (London: Wellcome Historical Medical Library, 1963) and Patrick Romanell, *John Locke and Medicine: A New Key to Locke*. (Buffalo, N.Y: Prometheus Books, 1984).

²⁴ This is a common story in accounts of Locke's medical education see David E. Wolfe, "Sydenham and Locke on the Limits of Anatomy," *Bulletin of the History of Medicine*, Vol. XXXV, No. 3, 1961; Jonathan Walmsley, "Sydenham and the Development of Locke's Natural Philosophy"; Kenneth Dewhurst, *John Locke Physician and Philosopher: A Medical Biography*; Patrick Romanell, *John Locke and Medicine* (Prometheus, 1984).

Nature and the frailty of our human faculties kept everything else hidden from view. Sydenham writes:

It is in accordance with immutable laws, and by a scheme known to herself only, that Parent Nature accomplishes the generation of all things; and though many thing she may bring forward from the abyss of cause into the open daylight of effect, it is in deepest darkness that she veils their essences, their constituent differentiae, their inherent natures; and hence it is, that each species of malady, even as each species of animal and each species of vegetable, hath taken as its portion its own state: proper, permanent, unequivocal, derivative from its essence.²⁵

Sydenham's argument anticipates Locke's later warnings about the futility of prying into the hidden essence of matter. The borrowing is unsurprising since Locke clearly admired the older physician, even going so far as to name him in the *Essay*, along with Boyle, Newton, and Huygens, as one of the four "Master-Builders, whose mighty Designs, in advancing the Sciences, will leave lasting Monuments to the Admiration of Posterity" (Epistle, 9).

Sydenham's influence on Locke's thought is perhaps most evident in a short piece entitled *Anatomia*. Composed in 1668, the argument of *Anatomia* is a halfway point between Sydenham's earlier admonitions against peering beneath Parent Nature's veil and Locke's later writings on epistemology and empiricism in the *Essay*.²⁶ The goal of this early essay is to demonstrate that anatomy is not likely "to afford any great improvement to the practice of

²⁵ Thomas Sydenham, *Methodus curandi februs*, 177; qtd. in Walmsley, "Sydenham and the Development of Locke's Natural Philosophy," 18 - 19.

²⁶ This piece appears in Kenneth Dewhurst's edition of Thomas Sydenham's writings, though Locke was established recently as the sole author. See G.G. Meynell, "Locke as the Author of *Anatomia* and *De Arte Medica*," *The Locke Newsletter*, 25 (1994), 65 - 73.

physic.”²⁷ Anatomy, according to Locke, lacks practical benefits: understanding more about the body’s organs or the nature of a disease is not useful in healing those organs or in eradicating that disease. Locke explains that “[a]ll that Anatomie can doe is only to shew us the gross and sensible parts of the body, or the vapid and dead juices all which, after the most diligent search, will be noe more able to direct a physician how to cure a disease than how to make a man.”²⁸ This claim might strike the modern reader—beneficiary of centuries of medical excursions into the recesses of the body—as odd, but Locke insists that dissection will not reveal knowledge about how the structures of the body actually work (or fail to work should a disease or malady afflict them): “Now it is certaine and beyond controversy that nature performs all her operations on the body by parts so minute and insensible that I thinke noe body will ever hope to pretend, even by the assistance of glasses or any other invention, to come to a sight of them.”²⁹

In other words, even though dissection can uncover heretofore hidden structures in the body, the “operation” of these structures remains obscure, even on a well-lit operating table. At best we can observe the “vapid and dead” body under the knife—but observing the dead body is no assurance that we will be able to comprehend its lively mechanisms. In fact, we cannot discover the mechanisms of the body because the real source of those mechanisms remains just out of sight. Even with the best technology or training—the sharpest knife, the keenest eyesight, or perhaps a newly developed microscope—the stuff that anatomy reveals is only the “gross and sensible” body. The real source of the body’s operations, however, are those “minute and insensible” structures that are by definition inaccessible (because invisible) to human faculties. These structures languish in Sydenham’s “abyss of causes,” never making their way into the

²⁷ Kenneth Dewhurst, *Dr. Thomas Sydenham, 1624-1689: His Life and Original Writings*. (Berkeley: University of California Press, 1966), 85.

²⁸ *Ibid.*, 85.

²⁹ *Ibid.*, 86.

“open daylight of effect” that is the proper provenance of human knowledge. With this in mind, “Anatomie” hopes to train the physician’s gaze on precisely those bodily effects that are most readily observable, a project that will hopefully lead to more pragmatic and practical medical knowledge: “How [should the physician] regulate his dose, to mix his simples and to prescribe all in a due method? All this is only from history and the advantage of a diligent observation of these diseases, of their beginning, progress, and ways of cure.”³⁰

As its call for a pragmatic “history” of disease nicely illustrates, “Anatomie” is a rehearsal for the “Historical, plain Method” of the later *Essay concerning Human Understanding*. In fact, much of that later work appropriates and augments language from Locke’s earlier medical writing. As in *Anatomia*, Locke insists in the *Essay* that, due to the frailty of human faculties, we are condemned to experience only the superficialities of things. Lurking beneath exterior appearances is not some hidden depth of knowledge but yet another surface, one that mocks our best efforts to observe and to understand the real constitution of bodies. As Locke explains in the *Essay*: “[S]ince we having but some few superficial *Ideas* of things, discovered to us only by the Senses from without, or by the Mind, reflecting on what it experiment in it self within, [we] have no Knowledge beyond that, much less of the internal Constitution, and true Nature of things, being destitute of Faculties to attain it” (2.23.31). Moreover, like *Anatomia*, the *Essay* further contends that the real mechanisms by which bodies produce certain observable effects are simply too minute for proper observation. We cannot see or understand those “insensible Corpuscles, [that are] the active parts of Matter, and the great Instruments of Nature” (4.3.25). As Locke goes on to explain:

³⁰ Ibid., 86.

Did we know the Mechanical affections of the Particles of *Rhubarb*, *Hemlock*, *Opium*, and a *Man*, as a Watchmaker does those of a Watch, whereby it performs its Operations, and of a File which by rubbing on them will alter the Figure of any of the Wheels, we should be able to tell before Hand, that *Rhubarb* will purge, *Hemlock* kill, and *Opium* make a Man sleep; as well as a Watch-maker can, that a little piece of Paper laid on the Balance, will keep the Watch from going, till it be removed ... But whilst we are destitute of Senses acute enough, to discover the minute Particles of Bodies, and to give us *Ideas* of their mechanical Affections, we must be content to be ignorant of their properties and ways of Operations; nor can we be assured about them any farther than some few Trials we make, are able to reach (4.3.25).

The argument here extends the skeptically informed pragmatism of *Anatomia* to all knowledge (although it interestingly retains the medical examples that were the subject of Locke's earlier work). Once again, Locke's point is that the mechanisms by which cause leads to effect—why it is, for example, that one kind of thing heals while another hurts—remain hidden from view. Unlike watches or geometric figures, which can be anatomized in order to better understand their workings and constitutions, physical bodies hide their clockwork from even the deepest dissections. Hence, we can observe that hemlock kills and that rhubarb heals, but we will be forever disappointed in our efforts to explain precisely why these drugs—or for that matter bodies in general—behave in this manner.

Nevertheless, these passages are not as despairingly skeptical as they may at first appear. They are, in fact, another instance of the “humility topos” we saw at work in Locke's figures of enclosure in the first chapter of the *Essay*. Once again, the purpose of these arguments and

images is to transform ignorance and limitation into a boon for a more robust and certain kind of knowledge. By separating the knowable mind from the unknowable world, Locke's figures reclaim consciousness from the sea of darkness that surrounds it. His writings against anatomy work similarly, though they trade the inside/outside figure for one of surface/depth. Attending to the surface of things—recording the course of a disease and its cure, for example—will give rise to certain and practical knowledge. However, cutting into the body in the hope of better understanding its workings will lead only to darkness and doubt. This is precisely the point of Locke's famous thought experiment on the man with microscope eyes. Locke argues that should a man somehow find himself endowed with senses capable of observing "things several millions of times less than the smallest Object of his sight now," then "he would come nearer the Discovery of the Texture and Motion of the minute Parts of corporeal things; and in many of them, probably get *Ideas* of their internal Constitutions." Nevertheless, this knowledge wouldn't be useful. The man with microscope eyes

would be in a quite different World from other People: Nothing would appear the same to him, and others: The visible *Ideas* of every thing would be different. ... He that was sharp-sighted enough to see the Configuration of the minute Particles of the Spring of a Clock, and observe upon what peculiar Structure and Impulse its elastick Motion depends, would no doubt discover something very admirable: But if Eyes so framed, could not view at once the Hand, and the Characters of the Hour-plate, and thereby at a distance see what a-Clock it was, their Owner could not be much benefited by that acuteness; which, whilst it discovered the secret contrivance of the Parts of the Machin, made him lose its use (2.23.12: 302 – 303).

By viewing a clock mechanistically—as a set of gears and springs—we lose sight of its face and can no longer tell the time. Likewise, a physician who dissects the body in order to understand the hidden cause of disease will be blind to cures and treatment; a philosopher who speculates on the essence of matter will be senseless to the perceptions that pass before the mind. Like much of the *Essay*, the “microscope eyes” passage is a warning as much as it is a reassurance. It asks us to direct our gaze at the “visible ideas” of this world so that we can better attend to our work in this realm. It does not seek to inspire doubt and despair in the capabilities of our weak human senses but to remind us that these faculties are suited perfectly to our share of the visible world.³¹ Locke continues:

We are furnished with Faculties (dull and weak as they are) to discover enough in the Creatures, to lead us to the Knowledge of the Creator, and the Knowledge of our Duty; and we are fitted well enough with Abilities, to provide for the Conveniences of living: These are our Business in this World (2.23.12: 302).

*

Could things really be so neat? Could the *Essay*’s attempts to separate domains of knowledge and certainty from more obscure realms really result in such solid demarcations? Locke’s figures certainly suggest so. Consider, once more, the tropes and images that Locke uses to map out the mental territory that the *Essay* explores. In the simplest terms, the *Essay* describes the human mind as an enclosed space that retains sense impressions from the outside world. For instance, S.H. Clark, in an essay that surveys the various metaphors that Locke uses to describe the mind in the *Essay*, characterizes the Lockean subject like so:

³¹ Pope is one of Locke’s best readers on this point. For example, *The Essay on Man*: “Why has not man a microscopic eye? / For this plain reason, man is not a fly.”

[The *Essay*'s] fundamental assumptions about the human mind include the model of receptacle, with the senses as "inlets" to an otherwise insurmountable enclosure; an internalized psychic space, inhabited by constellations of atomic particles; and a presiding consciousness in the alternate guises of eye, candle, and workman. The constitutive role of memory makes imagery of vacancy, acquisition, and storage central: the initial reception of sense-data emphasizes the passivity of perception, but in a secondary movement the "Workmanship of the Understanding" (3.3.12) labors incessantly to reconstruct a world.³²

This view of the mind ought to be familiar to readers of eighteenth-century texts. It is a version of what Charles Taylor calls the "punctual self," a concept of subjectivity that stresses interiority, inwardness, and privacy.³³ Yet it would be a mistake to contend that, because the mind is separated from the world, it is therefore cut off from external reality. On the contrary, Locke's work stresses that the internal world reflects the external world. Reality filters into the mind through the senses, and the light of the mind illuminates a reality now fully internalized.

³² Clark, "The Whole Internal World His Own," 246. Clark's work, with its focus on metaphors of enclosure in the *Essay*, is a reaction to earlier scholarship on Locke and metaphor. This earlier work is exemplified by Richard Rorty, although its lineage stretches back to Locke's earliest readers (Thomas Reid in the eighteenth century; T.H. Green in the nineteenth). Reid, Green, and Rorty argue that the key metaphor in Locke's work is the *tabula rasa*, and that this metaphor allows Locke to waver between describing the mind with epistemological terms (as something filled with conscious ideas) and with physiological terms (as a substance or surface—a blank slate—that receives physical impressions from the senses). See Richard Rorty, *Philosophy and the Mirror of Nature*. (Princeton N.J.: Princeton University Press, 2009), 139 - 148. Along with Clark, William Walker has demonstrated that the *tabula rasa* is hardly Locke's favored figure for describing the mind and that figures of enclosure serve as more fitting metaphors for Lockean epistemology. See William Walker, *Locke, Literary Criticism, and Philosophy*. (Cambridge: Cambridge University Press, 1994). I discuss (and challenge) this later work in the first section of this chapter below.

³³ Taylor describes this concept of selfhood like so: "We think of our thoughts, ideas, or feelings as being 'within' us, while the objects in the world which these mental states bear on are 'without.'" See his *Sources of the Self: The Making of the Modern Identity*. (Cambridge, Mass: Harvard University Press, 1989), 111. Nancy Armstrong applies this logic directly to the novel. She writes: "According to eighteenth-century epistemology and moral philosophy, the modern subject came into being as it took in sensations from the outside world and, of that material, composed first the ideas and then the judgment and moral sense that gave it a self-enclosed and internally coherent identity." *How Novels Think*, 11.

Yet there is reason to think that these figures rehearse a desire rather than instantiate an epistemology, that their efforts at separating matter and mind, ontology and epistemology, doubtful speculations and observable facts remain hopes rather than reality. Locke himself never denies that the physical body somehow impinges on mental events; thought influences matter (Locke calls this “willing” or “volition”) just as matter seems to affect thought (as the passages on the “physiology of the imagination” in the *Essay* make apparent).³⁴ Claiming as much doesn’t relegate one to a sea of metaphysical speculation. Rather, these observations derive from simple experience, precisely the sort of thing that the *Essay* directs its reader to attend. A somewhat thorny passage in the *Essay* makes this point by reference to Locke’s important distinction between primary and secondary qualities:

As the *Ideas* of sensible secondary Qualities, which we have in our Minds, can, by us, be no way deduced from bodily Causes, nor any correspondence or connexion be found between them and those primary Qualities which (Experience shews us) produce them in us; so on the other side, the Operation of our Minds upon our Bodies is unconceivable. How any thought should produce a motion in Body is as remote from the nature of our *Ideas*, as how any Body should produce any Thought in the Mind. That it is so, if Experience did not convince us, the Consideration of the Things themselves would never be able, in the least, to discover to us (4.3.28: 559).

In other words, we do not know how primary qualities in external objects (the actual make-up of matter; its solidity, extension, and motion) produce secondary qualities (color, taste, or sound) in

³⁴ See passages from 4.3.28 – 29.

our mind. Likewise, we cannot understand how body influences thought (or vice versa).

Nevertheless, “Experience shews us” that these relations exist.

Hence, Locke’s relegation of physiology to an obscure place outside the conscious mind does not mean that matter never enters the mind—although the force of his figures sometimes suggest as much. Locke’s point is more subtle and ultimately more alarming: body affects mind (and vice-versa), but we can never know exactly why or how it does so.³⁵ As Locke explains more simply in an unpublished work : “Impressions made on the retina by rays of light, I think I understand; and motions from thence continued to the brain may be conceived, and that these produce ideas in our minds, I am persuaded, but in a manner to me incomprehensible.” In other words, Locke never doubts that impression and motion somehow give rise to ideas. What remains hidden from us, what really stands outside the otherwise well-illuminated confines of the conscious mind, isn’t matter or body as such but the knowledge of how body affects mind.

Arguments like this blur the otherwise solid demarcations established by the figures of enclosure and surface and depth in the *Essay*. While it is certainly the case that most ontological and metaphysical problems (the existence of angels or the nature of God) lie outside the confines of the psyche, a brief consideration of the physical mind reminds us that this is not always so, that matter inside the skull sometimes coexists with the ideas in the mind. In short, physiology ensures that there will always be a little sea of metaphysical doubt within us.

³⁵ To put this in the jargon of contemporary philosophy, we could say that Locke is a “property dualist,” that is, he contends that things have physical properties (motion, extension, etc.) and mental properties (beliefs, desires, etc.). However, officially at least, Locke is not a “substance dualist.” He cannot say whether or not matter and mind are different substances, since we know so little about substance (and about how God impacts those substances). Descartes would be an example of a “substance dualist.” For a fuller explanation of these terms and how they apply to Locke’s philosophy see Jonathan Bennett, “Locke’s Philosophy of Mind” in *The Cambridge Companion to Locke*, ed. Chappell. (Cambridge: Cambridge University Press, 1994), 90.

II. LOCKE: WHAT'S THE MATTER WITH MADNESS?

In the course of drafting the fourth edition of the *Essay concerning Human Understanding*, John Locke found himself contemplating madness. As he had in previous versions of that work, Locke described madness in the new edition of the *Essay* as a disease that made the mind doubly deranged. First, madness confuses the mind's ideas. It occurs, Locke explains, when "*Ideas* that in themselves are not at all of kin, come to be so united in some Mens Minds, that 'tis very hard to separate them" (2.3.55). Second, madness makes the mind incapable of recognizing and thereby rectifying such confusions. According to Locke, reason, argument, and evidence have no effect on the false associations of madness. Indeed, while we can observe madness in others, we are blind to it in ourselves. Hence, madness is the "most dangerous" of "the Errors in the World ... since so far as it obtains, it hinders Men from seeing and examining" their thoughts (2.33.18).³⁶ But in addition to recapitulating past theories, the fourth edition of the *Essay* also added something new to Locke's thoughts on madness—something that seemed to depart radically from the stated aims of that work. For the first time, Locke argued that the root of madness could be located in the body and brain. Hence, the body is not only a source of the false images that flood the imagination and thereby deceive the understanding; the body also makes it impossible for the mind to judge the truth of these images.

It's worth remembering that the *Essay* continually warns that body and matter can behave in precisely this manner. When Locke imagines what a mind of "thinking matter" might look like in Book IV of the *Essay* he contends that its thoughts would be chaotic and unregulated and

³⁶ In another chapter in the *Essay*, one that appeared in earlier editions of that work, Locke describes madness in similar terms: "[Mad men] having joined together some *Ideas* very wrongly, they mistake them for Truths; and they err as Men do, that argue right from wrong Principles. For by the violence of their Imaginations, having taken their Fancies for Realities, they make right deductions from them" (2.11.13).

that it would also lack faculties like will and reason—mental capacities that presumably could tame its wild thoughts. {I’ve moved the discussion of “thinking matter” to the Introduction} Similarly, when Locke tries to excise the threat of matter from the mind by arguing for an epistemological modesty that would separate consciousness from substance, he relegates thoughts on matter to a place of ignorance and doubt. Matter seems to affect the mind, but we cannot know precisely how it does so. Hence, matter makes us doubly ignorant: it “thinks” in confused, incongruous images that recall the stuff of wit and fancy, and it also makes us incapable of examining and rectifying such confusions. This is precisely the dynamic that plays out in those sections on the “physiology of the imagination” in the *Essay*.

Consider, for example, the final chapter of Book II, Locke’s notorious late addition to the *Essay*, “Of the Association of *Ideas*.” When scholars discuss this chapter, they often focus on the cultural origins of madness.³⁷ To be sure, Locke puts a great deal of emphasis on the role education, custom, and in particular early childhood trauma play in the creation of false associations. Locke explains that if a child eats too much honey and is made nauseous as a result, he or she will forever associate sweetness and sickness; likewise, if a nurse scares a child with stories of goblins in the night, the child will falsely associate darkness and danger. But Locke also argues that custom and education only partially explain the peculiar madness of association. There is another, deeper mechanism at work here:

This sort of Unreasonable [i.e., false association] is usually imputed to Education and Prejudice, and for the most part truly enough, though that reaches not the bottom of the Disease, nor shews distinctly enough whence it rises, or wherein it lies. Education is often rightly assigned for the Cause, and Prejudice is a good

³⁷ See especially Caruth, *Empirical Truths and Critical Fictions*, *op. cit.*

general Name for the thing it self: But yet, I think, he ought to look a little farther who would trace this sort of Madness to the root it springs from, and so explain it, as to shew whence this flaw has its Original in very sober and rational Minds, and wherein it consists (2.33.3: 394 – 395).

Attributing “prejudice” to education and custom, then, cannot exhaust all the symptoms of madness. It cannot explain, for instance, how otherwise reasonable minds become mad. In order to examine the root cause of this malady, Locke looks beyond kinds of thinking and considers instead the physiology of thought:

This strong Combination of *Ideas*, not ally’d by Nature, the Mind makes in it self either voluntarily, or by chance, and hence it comes in different Men to be very different, according to their different Inclination, Educations, Interests, *etc.* Custom settles habits of Thinking in the Understanding, as well as of Determining in the Will, and of Motions in the Body; all which seems to be but Trains of Motion in the Animal Spirits, which once set a going continue in the same steps they have been used to, which often treading are worn into a smooth path, and Motion in it becomes easy and as it were Natural. As far as we can comprehend Thinking, thus *Ideas* seem to be produced in our Minds; or if they are not, this may serve to explain their following one another in an habitual train, when once they are put into that tract, as well as it does to explain such Motions of the Body (2.33.6: 396).

In other words, education and custom are at the origin of false association, but they are only the first link in a chain of causes that leads irrevocably to madness. On the other end of the chain is

the body and more specifically the animal spirits within the corporeal mind—precisely the sort of explanation that Locke scoffs at elsewhere in the *Essay*. Hence, in madness, culture and physiology become confused. Society or some chance trauma suggests a wrong association of ideas; habitual thinking reproduces and repeats this mis-association; the movement of animal spirits then inscribes this disorder directly onto the flesh. Education, custom, and habit literally carve certain ways of thinking into the body. The animal spirits in turn ensure that superstition and whim become part of brain anatomy.

By bringing to light the physiological underpinning of madness, Locke also makes it clear why the association of ideas “hinders Men from seeing and examining” their errors and misconceptions. Thanks to the repetition of custom and habit, the animal spirits change brain anatomy. Absurd ways of thinking thus become “easy and as it were Natural.” The “ease” of madness naturalizes and normalizes prejudice and error. In this case, the random flux of matter, rather than rational thinking, “determin[es] the Will.” When made mad, the mind’s ideas have a mind of their own: “When this Combination [i.e., false association] is settled and whilst it lasts, it is not in the power of Reason to help us, and relive us from the Effects of it. *Ideas* in our Minds, when they are there, will operate according to their Natures and Circumstances” (2.33.13: 398).

It’s worth underlining just how curiously un-Lockean these passages are. For one thing, Locke abandons his medical pragmatism when he deals with madness and the association of ideas. We’ll remember that Locke, following the example of Thomas Sydenham, abjures dark speculations into the hidden workings of the body in order to focus on a more empirical “natural history” of disease. Since we can never observe directly the “minute and insensible” bodies that produce disease, Locke and Sydenham recommend that physicians attend to the “superficial” effects of their patients’ maladies and abandon the hunt for hidden and obscure causes. Yet,

faced with the disease of madness, Locke himself gazes directly into what Sydenham called “the abyss of cause.” Education and prejudice—the most readily observable sources of madness—“reach not bottom of the Disease, nor shew distinctly enough whence it rises.” In order to understand false association, one must “trace this sort of Madness to the root it springs from,” namely, to the body and brain.

This deviation from Locke’s official stance on medical matters points to yet another divergence in his thought. In the *Essay*, Locke’s medical pragmatism shades into a more general call for a cautious empiricism: just as we cannot observe how cause leads to effect in disease, we also cannot observe how matter in the body makes thoughts in the mind. Given our ignorance, Locke refuses to comment on precisely how matter influences our thinking. Nevertheless, in the case of madness, matter evidently outthinks faculties like will and reason. The smooth paths of the animal spirits—the result of random moments of confusion burnt into the brain—produce conscious thought. As Locke puts it plainly in the above passage: “As far as we can comprehend Thinking, thus *Ideas* seem to be produced in our Minds.”

While these claims may sound less like the John Locke who was influenced by the epistemological modesty of Thomas Sydenham, they are nevertheless similar to a host of contemporary writings on madness and mental derangement. As Michael Ayers and John P. Wright have both stressed, Locke’s writings on madness are indebted to Cartesian thinkers and in particular Nicolas Malebranche. Like the Cartesians, the Locke who wrote “Of the Association of Ideas” attributes madness to the body and brain. As Ayers notes, much of what Locke has to say about mental derangement in the *Essay* is “consonant with Cartesian physiological explanations of error (especially prominent in Malebranche’s *Search after Truth*)

which attribute irrationality and delusion to the influences of the corporeal imagination.”³⁸

While I agree that Malebranche was an important influence on Locke’s thought, it’s also worth noting that Locke would have heard similar remarks about madness—and in greater physiological detail—while attending Thomas Willis’s lectures. Indeed, Willis’s lectures, with their emphasis on the role of the diseased brain in the creation of mental pathologies, serve as a fitting parallel for Locke’s own writings on the subjects.

As we’ll remember, Willis argues that, in a healthy mind and body, the corporeal and incorporeal souls work in unison. The corporeal soul feeds its immaterial counterpart sensible images; the immaterial soul in turn deliberates and acts on the information it receives from the body. However, in a diseased brain—one made mad by fever, drunkenness, or melancholic reflection—the souls “differ among themselves” and “sometimes are wont to dissent and move more than Civil Wars.”³⁹ Since the corporeal soul normally serves as the incorporeal soul’s window to the world, a diseased and rebellious body blinds its rational counterpart with images that rearrange sense experience into incongruous shapes. More troubling still, because the incorporeal soul—obscurely ensconced somewhere within the corporeal imagination—no longer receives reliable sensory information from the body, it takes the confused images of the deranged imagination for truth and acts madly as a result. As Willis notes, when the imagination “represents the images of sensible things distorted, double, or incoherent; [then] hence the mind and the will, choose or pick out nothing but ridiculous and impertinent conceptions and passions; and cause the actions of the body to become almost irregular.”⁴⁰

³⁸ Ayers, *Locke*, 47.

³⁹ *Ibid.*, 38.

⁴⁰ *Ibid.*, 182.

We can recognize in Willis's vision of the corporeal soul in revolt the outlines of Locke's own thoughts on madness. Willis, like Locke, also describes mental derangement as a twofold process. First, in a diseased brain, ideas that ought to remain separate and distinct become unmoored and soon mix. For example, in "phrensie," a variety of madness marked by high fever,

the Animal Spirits beings at first very much irritated in the whole Brain, are driven into inordinate, very confused, and also impetuous motions ... and at the same time, very many Ideas of things being raised up out of the memory, the old are confounded with the new, and some evilly joined, or wonderfully divided, are confounded with others, the imagination suggests manifold *Phantasms*, and almost innumerable, and all of them incongruous.⁴¹

Second, since the rational soul still relies on corporeal imagination for its view of the world, it is blind to the fact that it receives false information. The incorporeal soul acts on this false information, thereby perverting the intellect and will:

[W]hilst the various images of the imagination and memory being excited at once, are confounded together, they object only incongruous and absurd *phantasies* of the rational Soul, and so both the acts of the intellect and the will, are only inordinately chosen or drawn forth.⁴²

*

⁴¹ Ibid., 182.

⁴² Ibid., 179.

Locke's theory of mental derangement always had one thing in common with Willis and other seventeenth-century physiologists: a fear that madness would confuse and blind an otherwise rational mind. Where Locke differed from his teacher and fellow physicians—at least until the fourth edition of the *Essay* appeared—was in his uncertainty about whether or not the mutable matter of the body and brain could be the source of this disease. For example, in a passage that appeared in the second edition of the *Essay* (and survived into later versions of that work), Locke hedges on the precise cause of madness. He notes that the mad “do not appear ... to have lost the Faculty of Reasoning: but having joined together some *Ideas* very wrongly, they mistake them for Truths; and they err as Men do, that argue right from wrong Principles” (2.11.13). “Reasoning,” in Locke's technical use of the term, is the process of tracing out the connections (or agreement and disagreement) of the mind's idea. In madness, then, the work of reason continues unabated, though it now works with faulty materials. Because ideas have been “wrongly” joined in the mind, reason is forced to follow false connections.

What remains unclear in this passage, though, is precisely why the mind's ideas are wrongly joined in the first place. Willis, as we saw, accounts for this sort of mental derangement by positing a war between mind and body: the corporeal soul blinds its incorporeal counterpart, leaving the latter to pick out “nothing but ridiculous and impertinent conceptions and passions.” Locke's reflection on madness here similarly portrays the mind as riven by an internal war. But in abandoning speculations into the interaction of mind and body in this instance, Locke stages a war without combatants. He attributes both reason and the mis-association of ideas to mad men. But how is that mad men themselves join ideas wrongly when their reason (the faculty charged with properly observing the agreement and disagreement of the mind's ideas) continues its work as usual? Why is an otherwise intact reason insensible to the fact that it is being duped?

It's only in the fourth edition of the *Essay* that we receive an answer to these questions. It's in that edition of the *Essay* that the body emerges as the source of this curious blindness. Consider "Of Enthusiasm," a chapter Locke added to this later edition of the *Essay*. Locke maintains that, far from being guided by the hand of God, enthusiasts are in fact led astray by "the ungrounded Fancies of a Man's own Brain" (4.19.3). He writes:

Enthusiasm, which though founded neither on Reason, nor Divine Revelation, but rising from the Conceits of a warmed or over-weening Brain, works yet, where it once gets footing, more powerfully on the Perswasions and Actions of Men, than either of those two, or both together: Men being most forwardly obedient to the impulses they receive from themselves; And the whole Man is sure to act more vigorously, where the whole Man is carried by a natural Motion. For strong conceit like a new Principle carries all easily with it, when got above common Sense, and freed from all restraint of Reason, and check of Reflection, it is heightened into a Divine Authority, in concurrence with our own Temper and Inclination (4.19.7).

Here body and brain serve as mechanisms that circumvent the work of reason. Enthusiasm makes the mind "obedient" to the "impulses" of the body. Indeed, the body's impulses—its "Natural motion"—carries the mind away from reason and reflection, thereby forcing the understanding to heed otherwise senseless matter as if it were divine authority. Thanks to the brain's repression of reason and truth, the false thoughts that flood the mind are not examined or corrected; they are simply obeyed: "whatsoever odd Action [enthusiasts] find in themselves a strong Inclination to do, that impulse is concluded to be a call or direction from Heaven, and must be obeyed; 'tis a Commission from above, and they cannot err in executing it" (4.19.6).

We saw a similar dynamic at work in the chapter on the association of ideas. In this case, the random flux of matter, rather than rational thinking, determines the connection of the mind's thoughts. Thanks to the repetition of custom and habit, the animal spirits carve confusion directly into the brain as they create smooth paths in the corporeal mind. In a striking claim—one that overturns much of the *Essay*'s careful strictures against speculating upon the impact of matter on mind—Locke contends that these paths in turn gives rise to mis-associated ideas in the conscious mind. Thus, the minds of mad men, blind to the source of their own ideas, are filled with false Views, and their Reasonings with false Consequences" (2.33.18). Indeed, when made mad, the brain's ideas have a mind of their own: "When this Combination [i.e., false association] is settled and whilst it lasts, it is not in the power of Reason to help us, and relive us from the Effects of it. *Ideas* in our Minds, when they are there, will operate according to their Natures and Circumstances" (2.33.13). By bringing to light the physiological underpinnings of madness in this chapter of the *Essay*, then, Locke also makes it clear that the brain itself "hinders Men from seeing and examining" their errors and misconceptions.

*

I began the previous section by asking why Locke, in contradiction to the stated aims of the *Essay*, turned to neurophysiology in order to account for madness. We can now recognize that, in one respect at least, Locke's writings on the physiology of madness and his writings *against* physiology share a common theme. Locke the cautious empiricist explains that, while we can observe matter affecting mind, we cannot know precisely how it does so. We are blind to the mechanisms by which the nerves, flesh, and animal spirits of the brain give rise to conscious thought. Locke the speculative neurologist ignores these strictures in order to present an account of mental pathology that relies on the animal spirits creating confusion in the mind. And yet, in

the course of doing so, he makes a claim about our ignorance of the interactions of body and mind that parallel the more cautious passages of the *Essay*. The mad, Locke the neurologist explains, are blind to the confusing effects of matter on the mind.

III. STERNE: THE ENLIGHTENED AND DARK PARTS

Tristram Shandy begins where Locke's work (by which I mean the fourth edition of the *Essay*) ends: by reflecting on the way in which the matter of the body and brain determines conscious thought and qualities of character. Sterne's novel famously commences, in fact, with an account of Tristram's conception, a blessed event attended by the ministrations of the animal spirits. Drawing on contemporary accounts of generation, Tristram explains that, during procreation, the animal spirits are "to have escorted and gone hand-in-hand with the *HOMUNCULUS*," a "little gentlemen" endowed with all the characteristics of his larger counterpart (*TS* 6).⁴³ In Tristram's case, however, his mother's ill-timed question to his father in the midst of nuptial bliss—"Pray, my dear, quoth my mother, *have you not forgotten to wind up the clock?*"—"scattered and dispersed the animal spirits," thereby condemning her son to a life of misfortune, ill health, and chronological carelessness. As his own birth demonstrates, all the properties of thought and character which create a person depend upon the motion of these spirits:

You have all, I dare say, heard of the animal spirits, as how they are transfused from father to son, &c. &c.—and a great deal to that purpose:—Well, you may

⁴³ For account of the homunculus and theories of generation see Bonnie Blackwell, "'Tristram Shandy' and the Theater of the Mechanical Mother," *ELH*. 68.1 (2001): 81-133.

take my word, that nine parts in ten of a man's sense or his nonsense, his successes and miscarriages in this world depend upon their motions and activity, and the different tracks and trains you put them into; so that when they are once set a-going, whether right or wrong, 'tis not a halfpenny matter,--away they go clattering like hey-go-mad; and by treading the same steps over and over again, they presently make a road of it, as plain and as smooth as a garden-walk, which, when they are once used to, the Devil himself shall not be able to drive them off it (TS 5 – 6).

This passage recapitulates Locke's very similar account of the animal spirits and their role in the association of ideas.⁴⁴ Although Tristram's neurophysiology extends further than Locke's—here the animal spirits generate *all* forms of thought (sense and nonsense), not simply irrational or exuberant kinds of thinking as they do in Locke's work—the same claim is sounded: matter determines mind.⁴⁵ No matter how free or expatiating a train of thought may seem to its subject, the course of thinking is guided in advance by the pathways cut into the brain by the animal spirits. Tristram's account even recalls Locke's disturbing contention that the random and impetuous motion of the spirits can result in an habitual easiness in thinking that occludes the illegitimate origin of most maddening ideas. As Tristram notes, the otherwise meaningless and chaotic movements of the spirits (their "clattering like hey-go-mad") nevertheless can produce

⁴⁴ For instance, Locke claims that certain habits of thinking "seem to be but Trains of Motion in the Animal Spirits, which once set a going continue in the same steps they have been used to, which often treading are worn into a smooth path, and Motion in it becomes easy and as it were Natural"—language which Sterne evidently borrows when he notes that the animal spirits "make a road" in the mind "as plain and smooth as a garden walk." In both accounts, the brain is portrayed as a marked or carved surface.

⁴⁵ That Sterne's account of mental association embraces all forms of thinking—mad as well as healthy—is usually the prime evidence for stressing the influence of Hume (who argues something similar concerning the association of ideas) over Locke. See in particular Lamb, *Sterne's Fiction and the Double Principle*, 56.

roads so plain and so smooth that these bits of matter remain trapped in their tracts—leaving the mind to follow suit.

The central topic of the first few chapters of *Tristram Shandy*—that mental characteristics are defined and delimited by bodily physiology—becomes a frequent obsession throughout the novel.⁴⁶ Much of this obsessing is thanks to Tristram’s father, Walter, “an excellent natural philosopher ... much given to close reasoning upon the smallest matters” and hence source for most of the book’s medical speculations (*TS* 7). In fact, Walter’s own account of Tristram’s benighted birth draws on Locke’s mis-associating animal spirits even as it embraces more obscure physiological theories. As Walter laments (with his son in mind):

What one misfortune or disaster in the book of embryotic evils, that could
unmechanize thy frame, or entangle thy filaments! which has not fallen upon thy
head, or ever thou camest into the world—what evils in thy passage into it!—
What evils since!—produced into being, in the decline of thy father’s days—when
the powers of his imagination and of his body were waxing feeble—when radical
heat and radical moisture, the elements which should have tempered thine, were
drying up; and nothing left to found thy stamina in but negations ... when the few
animal spirits I was worth in the world, and with which memory, fancy, and quick
parts should have been convey’d,—were all dispersed, confused, confounded,
scattered, and sent to the devil.— (*TS* 243 – 244)

Walter’s complaint stitches together a mosaic of contemporary medical fads, schools, and dogmas—many of them incompatible and mutually hostile. There are, of course, the standard

⁴⁶ For a similar claim that body determines mind in Sterne’s work, see Michael V. DePorte, *Nightmares and Hobbyhorses: Swift, Sterne, and Augustan Ideas of Madness* (San Marino, Calif.: Huntington Library, 1974), 123.

references to Lockean psychology and physiology (evident especially in Walter's mentioning of "memory, fancy, and quick parts"), but there are also "entangled filaments," which are probably plucked from physiologists like George Cheyne (who saw the body as a quivering mass of vibrating nerves), as well as "radical moisture," which is imported from Francis Bacon or maybe even the chemical theories of Helmont.⁴⁷ Despite the diversity of theories on display here, though, Walter's point is remarkably coherent: all of Tristram's misfortunes can be traced to pre-natal physiological defects. Tristram's troubles begin "nine before he was born," as Walter notes, because it is during that time that seminal matter decides the course of a life in its entirety.

Tristram himself, as we have seen, also engages in medical speculation. Although Walter worries that he has not passed on his best qualities (or rather his best spirits) to his son, Tristram is very much his father's equal when it comes tracking the determinations of matter. For one thing, he agrees with Walter's assessment that his odd sense of time is a result of a neural defect: "—and now, you see, I am lost myself!—But 'tis my father's fault; and whenever my brains come to be dissected, you will perceive, without spectacles, that he has left a large uneven thread, as you sometimes see in an unsaleable piece of cambric, running along the whole length of the web" (*TS* 383). Likewise, Tristram imagines that his father's own hobbyhorses are thanks to faults physically present in the brain. Reflecting on his father, he warns his "learned readers" "against the indiscreet reception of such guests [hypotheses and conjectures], who, after a free and undisturbed entrance, for some years, into our brains,—at length claim a kind of settlement there,—working sometimes like yeast,—but more generally after the manner of the gentle passion, beginning in jest,—but ending in downright earnest" (*TS*

⁴⁷ For a thorough account of Sterne's various borrowings from contemporary medical discourse see J.S. Rodgers, "'Life' in the Novel: *Tristram Shandy* and Some Aspects of Eighteenth-Century Physiology." *Eighteenth Century Life*. 6.1 (1980): 1-20.

45). In passages like these, all mental qualities become an expression or efflorescence of material processes happening deep within the folds of the brain or in the mangle of nerves.

Indeed, with such passages in mind, it's easy to imagine that, if Sterne borrows anything from Locke, he borrows most heavily from the Locke who wrote the chapter on the association of ideas and who claims that the dumb motions of the animal spirits define patterns of thought. Nevertheless, I'll argue for a more complicated dynamic in the following pages. While it's true that Sterne appropriates the physiological Locke, he also adapts the lessons of the skeptical Locke. That is, at times we read passages—as we have seen—that recall Locke's writings on the animal spirits, while at other times we are faced with sections—as we will see—that reference Locke's warnings against prying into the secret and hidden essences of material things. What I want to suggest is that presenting both positions is not an accident or oversight on Sterne's part—as it seems to be on Locke's—but an effort to dramatize these two views. In so doing, Sterne heightens the sense that both views of mind and body share an essential similarity despite their seeming incongruity: namely, both views reveal our essential ignorance about the way in which body creates mind.

*

Sterne's most evident debt to the skeptical Locke—to the Locke who wanted to write a plain history of the understanding and thereby cordon off conjectures into the nature of matter and substance—is in his borrowing of the figurative topography that maps out the arguments of the *Essay*. We'll remember that Locke continually conveys his doubts that the human mind can penetrate into the secrets of matter by shunning metaphysical speculation. In this respect, the task of the *Essay* is to “set the Bounds between the enlightned and dark Parts of Things ...

between what is, and what is not comprehensible by us.” By mapping this terrain, Locke explains, we will be reminded that we “are fitted well enough with Abilities, to provide for the Conveniences of living”—no more, no less. Locke’s tropes in these moments turn an epistemological exhortation into a matter of navigating borders and contours: the mind itself serves as an illuminated space, while just outside its confines (not to mention just beneath the body’s flesh) is darkness, doubt, and uncertainty. Sterne, always on the lookout for a figurative foothold in his favorite texts, naturally appropriates Locke’s metaphors in his own work. For example, Tristram explains the value of skepticism to an unnamed interlocutor like so:

But mark, madam, we live amongst riddles and mysteries—the most obvious things, which come in our way, have dark sides, which the quickest sight cannot penetrate into; and even the clearest and most exalted understandings amongst us find ourselves puzzled and at a loss in almost every cranny of nature’s works; so that this, like a thousand other things, falls out for us in a way, which tho’ we cannot reason upon it,—yet we find the good of it, may it please your reverences and worships—and that’s enough for us (*TS* 241).

Copied from the *Essay* and projected onto the landscape of *Tristram Shandy*, Locke’s epistemological figures of light and shadow casts Sterne’s novel in a dramatic chiaroscuro. Like Locke, Tristram reminds his reader that everything has an “enlightened and dark” part, that at the edges of “the most obvious things” is a profound obscurity, and that no insight—no matter how quick or penetrating—will illuminate these shadowy limits. Even in the midst of skeptical despair, though, Tristram—in another borrowing from Locke—finds a kind of comfort in determining the bounds of knowledge. Though we “cannot reason upon” the riddles and

mysteries that surround us, we nevertheless can “find the good of it,” since marking off areas of obscurity also clearly delineates our place in the universe.

Thanks to Locke’s figures, *Tristram Shandy* can illustrate questions of epistemology with the play of light and dark, with the clear lines of borders and boundaries. In this system of tropes and images, certain knowledge is within one’s own mind or perhaps on the surface of things; mysteries are without us or even beneath the skins of the bodies we see before us. But for inveterate natural-philosophical speculators like Walter Shandy, the fact that “truth ... should shut herself up in such impregnable fastnesses, and be so obstinate as not to surrender herself upon the closest siege” is not a sign that the curious will be forever repelled from her fortress but rather an invitation to redouble every effort to break her blockades (*TS* 194). Throughout the novel, Walter continually hunts for the hidden origins, obscure causes, and secret springs that are behind the visible effects of the “most obvious things.” His efforts are matched by his brother Toby who prefers surface to depth, unthinking acceptance to difficult explanation, and God to science. When Walter tries to understand “what hidden resources the mind” uses to endure hardships and calamities, his brother replies that “’Tis by the assistance of Almighty God” (“That is cutting the knot, said my father, instead of untying it—But give me leave to lead you, brother *Toby*, a little deeper into this mystery.”) (*TS* 228). When Toby begins his *amours* with the Widow Wadman, Walter encourages him to determine if the source of his love can be located in the brain or the heart—“As the antients agree ... there are two different and distinct kinds of *love*,” he notes—a suggestion that Toby rejects since it is only the effects not the cause of love that concerns him: “What signifies it ... replied my uncle Toby, which of the two it is, provided it will but make a man marry, and love his wife, and get a few children” (*TS* 489).

The figurative contours that Sterne chisels into his novel after Locke's example are thrown into greatest relief when *Tristram Shandy* deals with the mind. Locke, we'll remember, (usually) insists that the workings of the mind cannot be illuminated by speculating into the way in which matter impinges upon the mental. How it is that nerves, animal spirits, and other bits cerebral anatomy produce and even determine conscious thought are questions that ought to be relegated to the dark side of things. Writing in his skeptical mode—as opposed to his mock-medical one—Sterne (and Tristram) tend to agree. In an extraordinary passage in Volume I, Tristram shatters the fantasy of Momus's glass—the idea that one could install a transparent fixture in the body and thereby plainly observe the workings of the soul. As Tristram explains:

had the said glass been there set up, nothing more would have been wanting, in order to have taken a man's character, but to have taken a chair and gone softly, as you would to a dioptrical bee-hive, and look'd in,--view'd the soul stark naked;---observ'd all her motions,—her machinations,—traced all her maggots from their first engendering to their crawling forth,---watched her loose in her frisks, her gambols, her capricios; and after some notice of her more solemn deportment, consequent upon such frisks, &c.—then taken your pen and ink and set down nothing but what you had seen, and could have sworn to (*TS* 59).

Though Tristram unfolds this myth in order to puncture it at this point in his narrative, elsewhere in the novel he and Walter find themselves gazing at something like a dioptric window into the soul when they observe (or pretend to) the animal spirits. After all, what are their discourses upon the “motions” and “machinations” of these entities, if not an attempt to understand the “first engendering” of character and consciousness? And yet Tristram, writing more as skeptic than speculator in this passage, rejects this view of matter and mind. Perhaps, Tristram notes, the

residents of Mercury possess transparent bodies (though even then old age would wrinkle their skin and cause the light to be “monstrously refracted”). “But this ... is not the case of the inhabitants of this earth;—our minds shine not through the body, but are wrapt up here in a dark covering of uncrystalized flesh and blood; so that if we would come to the specifick characters of them, we must go some other way to work” (*TS* 60). Or in other words: gazing upon flesh and blood will not afford one a view of the mind. While the body contains (and probably constitutes) the mind, the flesh itself presents an opaque surface to the curious eye—it resists, rather than invites, understanding—language that ought to recall Locke’s warnings about the similarly obscure organs revealed by anatomical dissections (“All that Anatomie can do is shew us the gross and sensible parts of the body...”).

In fact, at times in *Tristram Shandy*, Locke’s own metaphors of mind do not go far enough for Sterne-the-skeptic. For example, when Walter and Toby find themselves wondering “by what mechanisms and mensurations in the brain it came to pass, that the rapid succession of their ideas, and the eternal scampering of their discourse from one thing to another ... had lengthened out [a] short a period of time,” the typically learned Walter draws on Locke to explain this odd occurrence (*TS* 154). The mind, Walter notes with reference to Locke, contains a “regular succession of ideas of one sort or other, which follow each other in train just like ... the images in the inside of a lanthorn turned round by the heat of a candle” (*TS* 156). But Toby insists (and Walter later will begin to agree) that the mind behaves more like a smoke-jack—a figure which replaces Locke’s image of order and light with one that connotes internal mental confusion as well as external opacity: “the funnel unswept, and the ideas whirling round and round about in it, all obfuscated and darkened over with fuliginous matter!” (*TS* 156).

In detailing the pragmatic and “historical” side of Locke in the first section of this chapter, I added a word of caution: although Locke often insists that we cannot know how mind and matter interact, he does not claim—even at his most stringently skeptical—that they *never* interact. On the contrary, everything we can discern about the character of the mind, Locke argues, leads us to believe that it is incarnated—encased in nerves and fed with sensible impressions. A similar word of caution is necessary in the case of the “skeptical” Sterne. Although this Sterne—usually in the guise of Tristram—insists that we cannot know the mind by way of matter, he nevertheless stresses that the mind is not free from the perturbations of matter. In fact, the aforementioned metaphors of mind stress epistemological rather physical discontinuity: we cannot discern how the mind (or “soul”) operates within the body because it is hidden beneath crystallized flesh or soot. But that the body intrudes upon the mind is never in doubt in these images. Tristram frequently claims, for instance, that the mind cannot exist without the body: “I said, ‘we were not stocks and stones’—’tis very well. I should have added, nor are we angels, I wish we were,—but men cloathed with bodies and governed by our imaginations” (*TS* 98). Likewise, he notes that bodily events impact mental ones: “[The invented philosopher] Ludovicus Sorbonensis makes [grooming, dressing, etc.] entirely an affair of the body ... but he is deceived: A man cannot dress, but his ideas get cloath’d at the same time; and if he dresses like a gentleman, every one of them stands presented to his imagination, genteelized along with him” (*TS* 517). To be clear: neither image implies that mind and body are unrelated. Clothing metaphors signify physical contiguity (the body covers the mind just as clothes cover the body) even as they indicate concealment and covering (we cannot see a body beneath clothes just as we cannot perceive the mind through the obscurity of matter). As with Lock, so with

Sterne: we know that mind and body encroach upon one another—what we do not know (and cannot know) is precisely how they interact.

IV. STERNE: A PLAIN HISTORY OF SPECULATION

The reading of *Tristram Shandy* that I've pursued in these pages—a reading that argues that Sterne stages *both* a natural history of the understanding *and* a speculative account of the way in which body determines mind—becomes clearest in a famous though perplexing episode in Volume IV of that novel. The plain facts of this episode can be stated simply enough. Toby, Walter, Yorick, and Trim attend a “visitation dinner”—a feast for local clergy and dignitaries at the residence of Didius. Also in attendance are a series of “officials, advocates, proctors, registers, and . . . school divines”—one of whom, Phutatorius, has written a scandalous treatise on keeping concubines (*TS* 248). (Walter agrees to attend the dinner in order to consult with these learned guests and thereby determine if his son's christened name can be changed.) After the dinner, Yorick and Didius argue about whether or not it is scandalous for the former to burn and smoke his own sermon. During this debate, a servant presents the guests with a basket of hot chestnuts, one of which falls into Phutatorius's lap causing him to exclaim “Zounds!” The dinner guests—unaware that Phutatorius has been singed by a chestnut—wonder what this shout could mean.

At first glance, the episode serves as prime evidence for exercising skepticism and caution in all attempts to correlate mind and body. The dinner guests imagine that Phutatorius's

“Zounds!” applies to something Yorick has said in his debate with Didius, since Phutatorius himself looks as if he is paying close attention to the heated discussion. As Tristram explains:

There was not a soul busied in all these various reasonings upon the monosyllable which *Phutatorius* uttered,—who did not take this for granted, proceeding upon it as from an axiom, namely, that *Phutatorius*’s mind was intent upon the subject of debate which was arising between *Didius* and *Yorick*; and indeed as he looked first towards the one, and then towards the other, with the air of a man listening to what was going forwards,—who would not have thought the same? (*TS* 263).

Yet Phutatorius’s mock interest—like the crystallized flesh that surrounds the soul—only hides his true thoughts: “So that notwithstanding he looked with all the attention in the world, and had gradually skewed up every nerve and muscle in his face, to the utmost pitch the instrument would bear, in order, as it were to give a sharp reply to *Yorick*, who sat over-against him—Yet, I say, was *Yorick* never once in any one domicile of *Phutatorius*’s brain” (*TS* 264).

As if to further stress the caesura between fleshy appearance and hidden thoughts, the novel delights in chronicling the various (mis)interpretations of Phutatorius’s expression. Some guests assume that “Zounds!” is an off-key whistle and therefore signifies nothing; others argue that the curse is in fact “an involuntary respiration, casually forming itself into the shape of a twelve-penny oath”—and hence that the “word” only seems to signify (*TS* 263). Walter typically lands on the most baroquely mechanical and materialist explanation. According to him, “Zounds!” is a

real and substantial oath propensly [sic] formed against *Yorick*, to whom [Phutatorius] was known to bear no good liking—which said oath ... actually lay

fretting and fuming at that very time in the upper regions of *Phutatorius's* purtenance; and so was naturally, and according to the due course of things, first squeezed out by the sudden influx of blood, which was driven into the right ventricle of *Phutatorius's* heart... [etc.] (TS 263).

We can discern in all of these interpretations (and particularly Walter's) Sterne's satire on the hubris of physiologists who presume that they can peer beneath sensible appearances in order to discern (and hence fully comprehend) the hidden workings of nature. Walter in particular imagines that, by tracing Phutatorius's exclamation to its secret origin in the mechanisms of the body, he will understand its motivation—as if the oath were a physical manifestation of the blood boiling in Phutatorius's heart and head. And yet such explanations—blind to the chestnut burning in Phutatorius's breeches—miss their mark. Even the penetrating intellects of the learned doctors and divines of the visitation dinner cannot breach the mystery of Phutatorius's curse. Without the benefit of Momus's glass, the dinner party generates wonderfully imaginative but sadly mistaken interpretations. As Tristram laments: “How finely we argue upon mistaken facts!”

It's a lament that Tristram appears to take to heart, since he insists that, in recording Phutatorius's story, he will not contemplate hidden causes and will relate only readily evident details to the reader. He will serve, he tells us, as an “historian” of the event—a term that he seems to use in its technical, Lockean sense. After all, unlike the dinner guests, Tristram remains agnostic as to whether or not one can discern some secret providence in the chestnut's fall. Some guests are persuaded that “there was nothing of accident in the whole event—but that the chestnut's taking that particular course, and in a manner of its own accord ... was a real judgment upon *Phutatorius*, for that filth and obscene treatise *de Concubinis retinendis*” (TS 264

– 265). Tristram himself abstains from such speculations: “[A]ll that concerns me as an historian,” he explains, “is to represent the matter of fact, and render it credible to the reader, that the hiatus in *Phutatorius*’s breeches was sufficiently wide to receive the chestnut—and that the chestnut, some how or other, did fall perpendicularly and piping hot into it, without *Phutatorius*’s perceiving it, or any one else at that time” (*TS* 265). In practice, Tristram’s “history” reads as a dry recording of certain sensible facts: the chestnut “fell perpendicularly into [a] particular aperture of *Phutatorius*’s breeches”; it probably was “one of more life and rotundity than the rest,” etc. In place of Walter’s wild story about the internal workings of *Phutatorius*’s body, Tristram, writing as an historian, remains firmly on the outside of things—merely cataloguing weight, motion, and appearance. The chestnut fell “some how or other”; anything else is a matter for more speculative minds than Tristram’s (at this moment, anyway).

And yet, having bound his narrative within these sensible constraints, Tristram then breaks his promise to write a plain history by reporting on the state of things within *Phutatorius*’s brain and body:

The genial warmth which the chestnut imparted, was not undelectable for the first twenty or five and twenty seconds—and did no more than gently solicit *Phutatorius*’s attention towards the part:— But the heat gradually increasing, and in a few seconds more getting beyond the point of all sober pleasure, and then advancing with all speed into the regions of pain,—the soul of *Phutatorius*, together with all his ideas, his thoughts, his attention, his imagination, judgment, resolution, deliberation, ratiocination, memory, fancy, with ten battalions of animal spirits, all tumultuously crouded down, through different defiles and

circuits, to the place in danger, leaving all his upper regions, as you may imagine, as empty as my purse (*TS* 265).

With this passage, the novel suddenly shifts from natural history to speculative physiology. Tristram's painstaking record of the "minute particulars" of the visitation dinner—a record basically in consonance with the conventions of the realist novel at the time—becomes a medical discourse more in line with the physicians and physiologists that Walter continually consults. Stranger still, though, is that Tristram's excursion into the murk of physiological speculation—unlike Walter's—yields what is presumably a true account of Phutatorius's condition. Walter's very similar speculations serve both as a reminder that we cannot reason our way past the blank wall of flesh that guards the mind and as warning that—if we try—we will find our theories comically out of tune with their object. But Tristram, thanks to the tools of omniscient narration, carves a dioptric window into Phutatorius's body and thereby observes the cause that afflicts his soul.

With the workings of Phutatorius's body laid bare, then, we might reason that this episode is not as despairingly skeptical about our knowledge of matter and mind as it first seems. Tristram's physiology suggests that we can predicate mental events on material facts—so long as the right anatomist holds the knife. But Tristram's physiology—closely following Locke's lead in these matters—also gives way to a more thorough form of bodily skepticism than the kind I've tracked above. We'll remember that Locke breaks his interdiction against neurophysiology in order to make a point that nevertheless resonates with his initial distrust of this practice: we are blind to the way in which matter determines thought. Locke-the-skeptic claims that we cannot know how the brain creates the thoughts in the head; Locke-the-physiologists argues that *he* knows how this occurs in the case of mad men but that *they* do not. It is the defining trait of

madness, in Locke's account, that the mad are blind to their malady because this malady results from defects in cerebral matter. By this logic, the mad cannot recognize and thereby rectify their insane ideas because mental confusion has been carved directly into their brain by the animal spirits.

Phutatorius himself suffers from a similar blindness to his body's impulses. Though he can feel that something is amiss just beneath the hiatus in his breeches, Phutatorius strangely cannot quite understand what is causing his troubles. In language that once again brings to mind Locke's topographical figures, Tristram describes Phutatorius's thoughts like so: "With the best intelligence, which all these messengers [the animal spirits] could bring him back, *Phutatorius* was not able to dive into the secret of what was going forwards below, nor could he make any kind of conjecture, what the devil was the matter with it" (*TS* 265). In other words, as an interpreter of his own body, Phutatorius is in a position exactly analogous to that of the other dinner guests. In fact, like them, he also launches into a comically contrived interpretation of his corporeal troubles: "a thought instantly darted into his mind, that tho' the anguish had the sensation of glowing heat—it might, notwithstanding that, be a bite as well as burn; and if so, that possibly a *Newt* or an *Asker*, or some such detested reptile, had crept up, and was fastening his teeth—" (*TS* 265). That Phutatorius himself cannot decide on the cause of his pain, that he thinks it could be the result of a bite as well as a burn, indicates that even to be incarnated in a body is not to have privileged access to its effects. Let me end by suggesting that this is the ultimate Lockean lesson: that even within our own minds we cannot determine the matter of thought.

WORKS CITED

- Abrams, M.H. *The Mirror and the Lamp: Romantic Theory and the Critical Tradition*. Oxford: Oxford University Press, 1953.
- Augustine, *Confessions*. Translated by E.B. Pusey. Simon & Brown, 2012.
- Anderson, Howard. "Associationism and Wit in *Tristram Shandy*," *Philological Quarterly*, 48: 1, (Jan. 1969).
- Armstrong, Nancy. *How Novels Think: The Limits of Individualism from 1719-1900*. New York: Columbia University Press, 2005.
- Arbuthnot, John. *The Life and Works of John Arbuthnot, M.d: Fellow of the Royal College of Physicians*. Edited by George A. Aitken. Oxford: Clarendon Press, 1892.
- Ayers, Michael. *Locke: Epistemology and Ontology*. London: Routledge, 1993.
- Bacon, Francis. *The Major Works*. Edited by Brian Vickers. Oxford: Oxford UP, 1996.
- Barrow, John. *A new and universal dictionary of arts and sciences: ... With an introductory preface, ... And illustrated with a great number of copper-plates, ...* London, 1751.
- Battestin, Martin C. *The Providence of Wit: Aspects of Form in Augustan Literature and the Arts*. Oxford: Clarendon Press, 1974.
- Beattie, James. *Of Poetry and Music in Essays* 3rd ed. 1779.
- . *Dissertations Moral and Critical*. London: Printed for Strahan, Cadell, and Creech, 1783.
- Beattie, Lester M. *John Arbuthnot, Mathematician and Satirist*. London: Humphrey Milford / Oxford University Press, 1935.
- Bennett, Jonathan. "Locke's Philosophy of Mind" in *The Cambridge Companion to Locke*. Edited by Vere Chappell. Cambridge: Cambridge University Press, 1994.
- Bentley, Richard. *Matter and motion cannot think*. 1692.
- Blackmore, Richard. *The Poetical Works: Of Sir R. Blackmore: Containing Creation ; a Philosophical Poem, in Seven-Books. to Which Is Prefixed the Life of the Author. Cooke's Edition. Embellished with Superb Engravings*. London: Printed for C. Cooke, No. 17, Paternoster-Row, and sold by all the Booksellers in Great-Britain and Ireland, 1797.
- Blackwell, Bonnie. "'Tristram Shandy' and the Theater of the Mechanical Mother," *ELH*. 68.1 (2001).
- Blair, Hugh. *Lectures on Rhetoric and Belles Lettres*, Vol. 3. 1783.

- Boerhaave, Herman. *A Method of Studying Physick: Containing What a Physician Ought to Know in Relation to the Nature of Bodies, the Laws of Motion; ... Written in Latin by the Learned Hermann Boerhaave ... Translated into English by Mr. Samber.* London: Printed by H.P. for C. Rivington; B. Creake; and J. Sackfield, 1719.
- Bogel, Fredric V. "Dulness Unbound: Rhetoric and Pope's *Dunciad*," *PMLA* 97 (1982).
- Bono, James J. "Medical Spirits and the Medieval Language of Life," *Traditio* 40.
- Boyle, Frank T. *Swift As Nemesis: Modernity and Its Satirist.* Stanford, Calif: Stanford University Press, 2000.
- Boyle, Robert. *The Christian Virtuoso: Shewing That by Being Addicted to Experimental Philosophy, a Man Is Rather Assisted Than Indisposed to Be a Good Christian.* In the Savoy: Printed by Edw. Jones for John Taylor ... and John Wyat, 1690.
- Burton, Robert, and Holbrook Jackson. *The Anatomy of Melancholy.* London: J.M. Dent, 1932.
- Bynum, William F. "The Anatomical Method, Natural Theology, and the Functions of the Brain," *Isis*, Vol. 64, No. 4, (Dec. 1973).
- Caruth, Cathy. *Empirical Truths and Critical Fictions: Locke, Wordsworth, Kant, Freud.* Baltimore: Johns Hopkins University Press, 1991.
- Chalmers, David. "Facing Up to the Problem of Consciousness." *Journal of Consciousness Studies* 2: 200 – 219, 1995.
- Clower, William T. "The Transition from Animal Spirits to Animal Electricity: A Neuroscience Paradigm Shift," *Journal of the History of the Neurosciences*, 7:3, 205.
- Chase, Cynthia. "Giving a Face to a Name," *Decomposing Figures.* Ithaca: Cornell UP, 1985.
- Cheyne, George. *The English Malady, Or, a Treatise of Nervous Diseases of All Kinds, As Spleen, Vapours, Lowness of Spirits, Hypochondriacal, and Hysterical Distempers, &c.* London: Printed for G. Strahan in Cornhill, 1733.
- Clark, John R. *Form and Frenzy in Swift's Tale of a Tub.* Ithaca: Cornell University Press, 1970.
- Clarke, Edwin. "The Doctrine of the Hollow Nerve in the Seventeenth and Eighteenth Centuries" in *Medicine, Science, and Culture: Historical Essay in Honor of Owsei Temkin.* Edited by Stevenson and Multhau. Baltimore: The Johns Hopkins Press, 1968.
- Cook, Elizabeth J. "Thomas Hobbes and the 'Far-Fetched,'" *Journal of the Warburg and Courtauld Institutes* 44 (1981).

- Cook, John. *An Anatomical and Mechanical Essay on the Whole Animal Oeconomy: In One View. Wherein Is Shewn the Most Wonderfull Conduct of Nature in All the Phænomena Attending Human Bodies*. London: Printed for W. Meadows, 1730.
- Cross, Wilbur. *Life and Times of Laurence Sterne*, 3d ed., New Haven, 1939.
- Day, W.G. "Tristram Shandy: Locke May Not Be the Key" in Myer, Valerie Grosvenor, ed., *Laurence Sterne: Riddles and Mysteries* (1984).
- Dennett, Daniel C. *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness*. Cambridge: The MIT Press, 2005.
- DePorte, Michael V. *Nightmares and Hobbyhorses: Swift, Sterne, and Augustan Ideas of Madness*. San Marino, Calif.: Huntington Library, 1974.
- René Descartes. *Treatise on Man*. Translated by Thomas S. Hall. Cambridge: Harvard University Press, 1972.
- . *Meditations, Objections, and Replies*. Translated and edited by Roger Ariew and Donald A. Cress. Indianapolis, IN: Hackett Pub, 2006.
- Dewhurst, Kenneth. *John Locke, 1632-1704, Physician and Philosopher: A Medical Biography with an Edition of the Medical Notes in His Journals*. London: Wellcome Historical Medical Library, 1963.
- . *Thomas Willis As a Physician*. Los Angeles: William Andrews Clark Memorial Library, 1964.
- . *Dr. Thomas Sydenham, 1624-1689: His Life and Original Writings*. Berkeley: University of California Press, 1966.
- Eachard, John. *Some opinions of Mr. Hobbs considered in a second dialogue between Philautus and Timothy*. 1672.
- Ehrenpreis, Irvin. "The Doctrine of a Tale of a Tub" in *Proceedings of the First Münster Symposium on Jonathan Swift*. Edited by Real and Vienken. München: W. Fink, 1985.
- Fanning, Christopher. "Small Particles of Eloquence: Sterne and the Scriblerian Text." *Modern Philology*. 100.3 (2003).
- Fisher, Alan S. "An End to the Renaissance: Erasmus, Hobbes, and 'A Tale of a Tub,'" *Huntington Library Quarterly*, 38, 1 (Nov. 1974).
- Flemyng, Malcolm. *An Introduction to Physiology, Being a Course of Lectures Upon the Most Important Parts of the Animal Oeconomy: in Which the Nature and Seat of Many Diseases Is Pointed Out, and Explained*. London: Printed for J. Nourse, 1759.

- Flynn, Carol H. *The Body in Swift and Defoe*. Cambridge: Cambridge University Press, 1990.
- Forster, Jean-Paul. *Jonathan Swift: The Fictions of the Satirist*. Berne and New York: Peter Lang, 1991.
- Francus, Marilyn. *The Converting Imagination*. Carbondale: Southern Illinois University Press, 1994.
- Frank, Robert G. *Harvey and the Oxford Physiologists: Scientific Ideas and Social Interaction*. Berkeley: University of California Press, 1980.
- . "Thomas Willis and His Circle" in *The Languages of Psyche: Mind and Body in Enlightenment Thought : Clark Library Lectures, 1985-1986*. Edited by G.S. Rousseau. Berkeley: University of California Press, 1990.
- Frost, Samantha. *Lessons from a Materialist Thinker: Hobbesian Reflections on Ethics and Politics*. Stanford: Stanford University Press, 2008.
- Gaukroger, Stephen. "The Role of Natural Philosophy in the Development of Locke's Empiricism," *British Journal for the History of Philosophy*, 17 (1) 2009.
- Gee, Sophie. *Making Waste: Leftovers and the Eighteenth-Century Imagination*. Princeton, N.J: Princeton University Press, 2010.
- Glanvill, Joseph. *The Vanity of Dogmatizing: The Three Versions*. Edited by Stephen Medcalf. Brighton: The Harvester Press Ltd, 1970.
- Harth, Philip. *Swift and Anglican Rationalism: The Religious Background of a Tale of a Tub*. Chicago: University of Chicago Press, 1961.
- Harvey, William. *The Anatomical Exercises: De Motu Cordi and De Circulatione Sanguinis in English translation*. Edited by G. Keynes. New York, 1995.
- Haywood, Eliza. *The Rash Resolve in Secret Histories, Novels, and Poems. In Four Volumes...* London: Printed for Dan Browne, 1725.
- . *The History of Miss Betsy Thoughtless: In Four Volumes*. Dublin: Printed for Oliver Nelson, 1751.
- Hobbes, Thomas. *De Corpore*, in *The English Works of Thomas Hobbes of Malmesbury*, vol. 1, Edited by Molesworth. London, 1839 – 45.
- . "Answer to Davenant's Preface to Gondibert" in *Critical Essays of the Seventeenth Century*, vol. II. Edited by J.E. Spingarn. Oxford: Clarendon Press, 1908.
- . *Leviathan*. Edited by Richard Tuck. Cambridge: Cambridge University Press, 1991.

- . *De cive*, in *Man and Citizen: Thomas Hobbes's De Homine*, Edited by Gert. Garden City, N.Y: Anchor Books, 1972.
- Hooke, Robert. *The Posthumous Works of Robert Hooke, M.D.S.R.S.* London, 1705: Johnson Reprint, New York, 1969.
- Hopkins, Robert H. "The Personation of Hobbism in Swift's *Tale of a Tub* and *Mechanical Operation of the Spirit*," *Philological Quarterly*, 45 (1966).
- Hutchinson, Benjamin. *Biographia Medica; Or, Historical and Critical Memoirs of the Lives and Writings of the Most Eminent Medical Characters ... with a Catalogue of Their Literary Productions.* London: Printed for J. Johnson, 1799.
- Isham, Gyles, ed. *The Correspondence of Bishop Brian Duppa and Sir Justinian Isham, 1650 – 1660*, ed. The Publications of the Northamptonshire Record Society, Vol. XVII, 1951.
- Isler, Hansruedi. *Thomas Willis, 1621-1675: Doctor and Scientist.* New York, London: Hafner, 1968.
- Jacyna, L.S. "Animal Spirits and Eighteenth-Century British Medicine" in *The Comparison Between Concepts of Life-Breath in East and West.* Edited by Kawakita, Sakai, Otsuka. Ishiyaku EuroAmerica, Inc., 1990.
- Jones, Emrys. "Pope and Dulness" in *Pope: A Collection of Critical Essays.* Edited by J.V. Guerinet. Englewood Cliffs, N.J: Prentice-Hall, 1972.
- Jones, R.F. "Science and English Prose Style in the Third Quarter of the Seventeenth Century," *PMLA*, Vol. 45, No. 4 (Dec. 1930).
- Kallich, Martin. *The Association of Ideas and Critical Theory in Eighteenth-Century England: A History of a Psychological Method in English Criticism.* The Hague: Mouton, 1970.
- Keill, James. *The Anatomy of the Human Body Abridg'd: Or, a Short and Full View of All the Parts of the Body. Together with Their Several Uses, Drawn from Their Compositions and Structures.* London: Printed for John Clarke, 1723.
- Kerby-Miller, Charles, ed. *The Memoirs of ... Scriblerus* (Alexander Pope and John Arbuthnot, *Memoirs of the Extraordinary Life, Works, and Discoveries of Martinus Scriblerus.* New Haven: Published for Wellesley College by Yale University Press, 1950.
- Knapp, Steven. *Personification and the Sublime: Milton to Coleridge.* Cambridge, Mass: Harvard University Press, 1985.
- Kramnick, Jonathan B. *Actions and Objects from Hobbes to Richardson.* Stanford, Calif: Stanford University Press, 2010.

- Kroll, Richard W. F. *The Material Word: Literate Culture in the Restoration and Early Eighteenth Century*. Baltimore: Johns Hopkins University Press, 1991.
- Lamb, Jonathan. *Sterne's Fiction and the Double Principle*. Cambridge: Cambridge University Press, 1989.
- Leibniz, Gottfried W. *The Monadology in Discourse on Metaphysics and Other Essays*. Translated and edited by Daniel Garber and Roger Ariew. Indianapolis: Hackett, 1991.
- Locke, John. *An Essay Concerning Human Understanding*. Edited by Nidditch. Oxford: Clarendon Press, 1975.
- Lorch, Marjorie Perlman. "Explorations of the Brain, Mind, and Medicine in the Work of Jonathan Swift" in *Brain, Mind and Medicine: Essays in Eighteenth-Century Neuroscience*, eds. Whitaker, Smith, and Finger. New York, NY: Springer, 2007.
- Loveridge, Mark. *Laurence Sterne and the Argument About Design*. Totowa, N.J: Barnes & Noble Books, 1982.
- Lund, Roger D. "Strange Complicities: Atheism and Conspiracy in *A Tale of a Tube*," *Eighteenth-Century Life*, 13 (1989).
- . "The Bite of *Leviathan*: Hobbes and Philosophic Drollery," *ELH* 65 (1998): 825 – 855
- Lupton, Christina. "Tristram Shandy, David Hume, and Epistemological Fiction," *Philosophy and Literature*, 2003.
- MacLean, Kenneth. *John Locke and English Literature of the Eighteenth Century*. New York: Russell & Russell, 1962.
- Macintosh, J.J. "Perception and Imagination in Descartes, Boyle and Hooke," *Canadian Journal of Philosophy*, Vol. 13, No. 3 (Sept. 1983).
- Malcom, Noel. "Hobbes's Science of Politics and his Theory of Science" in *Aspects of Hobbes*. Oxford: Oxford University Press, 2002.
- Mandeville, Bernard. *A Treatise of the Hypochondriack and Hysterick Diseases: In Three Dialogues*. London: Printed for J. Tonson in the Strand, 1730.
- Manley, Delariver. *Memoirs of Europe, Towards the Close of the Eighth Century. Written by Eginardus, Secretary and Favourite to Charlemagne: And done into English by the translator of the New Atalantis*. London: Printed for John Morphew, 1710.
- Martensen, Robert L. *The Brain Takes Shape: An Early History*. Oxford: Oxford University Press, 2004.

- Meynell, G.G. "Locke as the Author of *Anatomia* and *De Arte Medica*," *The Locke Newsletter*, 25 (1994).
- La Mettrie J. O. *Man a Machine ; And, Man a Plant*. Edited and translated by Leiber. Indianapolis: Hackett Pub. Co, 1994.
- Milton, John. *Complete Poems and Major Prose*. Edited by Merritt Y. Hughes. New York: Odyssey Press, 1957.
- Moglen, Helene. *The Philosophical Irony of Laurence Sterne*. Gainesville: University Presses of Florida, 1975.
- Montag, Warren. *The Unthinkable Swift: The Spontaneous Philosophy of a Church of England Man*. London: Verso, 1994.
- Morgan, Thomas. *The Mechanical Practice of Physick: in Which the Specifick Method Is Examin'd and Exploded*. London: Printed for T. Woodward, 1735.
- Michael, Emily and Fred S. Michael. "Corporeal Ideas in Seventeenth-Century Psychology," *Journal of the History of Ideas*. 50.1 (1989).
- Mintz, Samuel I. *The Hunting of Leviathan*. Cambridge: Cambridge University Press, 1962.
- Mullan, John. *Sentiment and Sociability: The Language of Feeling in the Eighteenth Century*. Oxford: Clarendon Press, 1988.
- Mulligan, Lotte. "Robert Hooke's 'Memoranda': Memory and Natural History," *Annals of Science*, 49 (1992).
- Muri, Allison. *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830*. Toronto: University of Toronto Press, 2007.
- New, Melvyn and Joan New, eds. *The Florida Edition of the Works of Laurence Sterne*. Gainesville: University Presses of Florida, 1978.
- Noggle, James. *The Skeptical Sublime: Aesthetic Ideology in Pope and the Tory Satirists*. Oxford: Oxford University Press, 2001.
- Norris, John. *Practical discourses upon several divine subjects [vol. III]*, 1693.
- Park, Katharine. "Bacon's 'Enchanted Glass,'" *Isis*, Vol. 75, No. 2, June 1984.
- Park, Katharine and Lorraine Daston, "Introduction" in *Early Modern Science*. Cambridge: Cambridge University Press, 2006.

- Parkin, Jon. *Taming the Leviathan: The Reception of the Political and Religious Ideas of Thomas Hobbes in England, 1640-1700*. Cambridge, UK: Cambridge University Press, 2007.
- Pascal, Blaise. *Minor Works*, translated by O. W. Wright. Vol. XLVIII, Part 2. The Harvard Classics. New York: P.F. Collier & Son, 1909–14.
- Patey, Douglas Lane. "Swift's Satire on 'Science' and the Structure of *Gulliver's Travels*," *ELH*, Vol. 58, No. 4 (Winter 1991).
- . "Art and Integrity: Concepts of the Self in Alexander Pope and Edward Young" in *Critical Essays on Alexander Pope*. Edited by Wallace Jackson and R P. Yoder. New York: G.K. Hall, 1993.
- Plato. *Plato in Twelve Volumes*, Vol. 12. Translated by Harold N. Fowler. Cambridge, MA, Harvard University Press; London, William Heinemann Ltd., 1921.
- Pope, Alexander Jonathan Swift, and John Arbuthnot. *The Art of Sinking in Poetry: Martinus Scriblerus' Peri Bathous*. Edited by Edna L. Steeves and Reginald H. Griffith. New York: King's Crown Press, 1952.
- Pope, Alexander. *The Odyssey of Homer. Translated from the Greek*. Printed W. Broome and E. Fenton, 1725 – 6.
- . *The Twickenham Edition of the Works of Alexander Pope*, Vol. 5: *The Dunciad*. Edited by James Sutherland. New Haven: Yale University Press, 1953.
- Purcell, John. *A Treatise of Vapours: Or, Hysterick Fits. Containing an Analytical Proof of Its Causes ... Together with Its Cure at Large*. London: Printed: and sold by H. Newman, and N. Cox, 1702.
- Priestley, Joseph. *A course of lectures on oratory and criticism*. London, 1777.
- Rodgers, J.S. "'Life' in the Novel: *Tristram Shandy* and Some Aspects of Eighteenth-Century Physiology." *Eighteenth Century Life*. 6.1 (1980).
- Rogers, Pat. *An Introduction to Pope*. London: Methuen, 1975.
- . "The name and nature of Dulness" in *Essays on Pope*. Cambridge: Cambridge University Press, 1993.
- Romanell, Patrick. *John Locke and Medicine: A New Key to Locke*. Buffalo, N.Y: Prometheus Books, 1984.
- Rorty, Richard. *Philosophy and the Mirror of Nature*. Princeton N.J.: Princeton University Press, 2009.

- Rousseau, G S. "Science and the Discovery of the Imagination in Enlightened England." *Eighteenth Century Studies*. 3.1 (1969).
- . *Nervous Acts: Essays on Literature, Culture, and Sensibility*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2004.
- Russel, Richard and John Martyn. *Memoirs of the Society of Grub Street*. London: J. Wilford, 1737.
- Sitter, John E. *The Poetry of Pope's Dunciad* (Minneapolis: University of Minnesota Press, 1971).
- Skinner, Quentin. *Reason and Rhetoric in the Philosophy of Hobbes*. Cambridge: Cambridge University Press, 1996.
- Smith, Frederick N. *Language and Reality in Swift's Tale*. Columbus: Ohio State University Press, 1979.
- Sorrell, Tom. *Hobbes*. Routledge, 1986.
- Starkman, Miriam K. *Swift's Satire on Learning in a Tale of a Tub*. Princeton, N.J: Princeton University Press, 1950.
- Sterne, Laurence. *The Life and Opinions of Tristram Shandy, Gentleman*. Edited by New and New. London: Penguin Books, 2003.
- Sutton, John. *Philosophy and Memory Traces: Descartes to Connectionism*. Cambridge: Cambridge University Press, 1998.
- Swift, Jonathan. *The Prose Works of Jonathan Swift*. Edited by Herbert J. Davis and Irvin Ehrenpreis. Vol. 3. Oxford: B. Blackwell, 1939.
- . *A Tale of a Tub*. Edited by Guthkelch and Smith. Oxford University Press, 1958.
- . *The Poems of Jonathan Swift*. Edited by Harold H. Williams. Oxford: Clarendon Press, 1958.
- Sydenham, Thomas. *Methodus curandi februs*. 1677.
- Tanner, Tony. "Reason and the Grotesque: Pope's *Dunciad*," *Critical Quarterly* 7 (1965).
- Tauvry, Daniel. *A New Rational Anatomy: Containing an Explication of the Uses of the Structure of the Body of Man and Some Other Animals, According to the Rules of Mechanicks. ... Made English from the Third Edition, Revis'd, Corrected, and Enlarg'd by the Author*. London: Printed for D. Midwinter, and Tho. Leigh, 1701.

- Taylor, Charles. *Sources of the Self: The Making of the Modern Identity*. Cambridge, Mass: Harvard University Press, 1989.
- Tenison, Thomas. *The creed of Mr. Hobbes examined in a feigned conference between him and a student in divinity*. 1670.
- Traugott, John. *Tristram Shandy's World: Sterne's Philosophical Rhetoric*. Berkeley: University of California Press, 1954.
- Quinlan, Maurice J. "Swift's Use of Literalization as a Rhetorical Device," *PMLA*, 82, No. 7 (Dec. 1967).
- Vickers, Brian. "The Royal Society and English Prose Style: A Reassessment" in *Rhetoric and the Pursuit of Truth: Language Change in the Seventeenth and Eighteenth Centuries*. William Andrews Clark Memorial Library, 1985.
- Wallace, Wes. "The vibrating nerve impulse in Newton, Willis and Gassendi: First steps in a mechanical theory of communication," *Brain and Cognition* 51, 2003.
- Walker, William. *Locke, Literary Criticism, and Philosophy*. Cambridge: Cambridge University Press, 1994.
- Walmsley, Jonathan. "Sydenham and the Development of Locke's Natural Philosophy," *British Journal for the History of Philosophy*, 16 (1) 2008.
- Wasserman, Earl R. "The Inherent Values of Eighteenth-Century Personification," *PMLA*. 65.4 (1950).
- Watkins, J. W. N. *Hobbes's System of Ideas: A Study in the Political Significance of Philosophical Theories*. London: Hutchinson, 1965.
- Watt, Ian. *The Rise of the Novel: Studies in Defoe, Richardson, and Fielding*. Berkeley: University of California Press, 1957.
- Willis, Thomas. *Cerebral Anatomy in Five Treatises*. Translated by Samuel Pordage. London: Printed for T. Dring, C. Harper, J. Leigh, and S. Martin.
- . *Thomas Willis's Oxford Lectures*. Edited by Kenneth Dewhurst. Oxford: Sandford Publications, 1980.
- Wolfe, Charles T. "Empiricist Heresies in Early Modern Thought" in *The Body As Object and Instrument of Knowledge: Embodied Empiricism in Early Modern Science*. Edited by Wolfe and Gal. Netherlands: Springer, 2010).
- Wolfe, David E. "Sydenham and Locke on the Limits of Anatomy," *Bulletin of the History of Medicine*, Vol. XXXV, No. 3, 1961.

Wotton, William. *Reflections Upon Ancient and Modern Learning*. London: Printed by J. Leake for Peter Buck, 1694.

Wright, John P. "Locke, Willis, and the seventeenth-century Epicurean soul" in *Atoms, pneuma, and tranquility: Epicurean and Stoic Themes in European Thought*. Edited by Margaret J. Osler. Cambridge University Press), 1991.

Yolton, John W. *Thinking Matter: Materialism in Eighteenth-Century Britain*. Minneapolis: University of Minnesota Press, 1983.

Zimmer, Carl. *Soul Made Flesh: The Discovery of the Brain and How It Changed the World*. New York: Free Press, 2004.

Zimmerman, Everett. *Swift's Narrative Satires: Author and Authority*. Ithaca: Cornell University Press, 1983.